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THE SUGAR BULLETIN

42 — No. 1 OCTOBER 1, 1963

cial Bulletin of the American Sugar Cane League of the U. S. A.

ANDREW P. GAY
Twenty-second President of the American Sugar Cane League

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Meetings

Thursday, September 26th was a day of meetings for the sugar people. First came the High Yield Awards Luncheon, then the Annual Meeting of the American Sugar Cane League, and then the monthly meeting of the American Sugar Cane League's Executive Committee. All three meetings were held in the Grand Ball Room of the Roosevelt Hotel in New Orleans.

The High Yield Awards Luncheon, which is to honor the farmers who led in cane tonnage production per acre in various sections of the State during the previous crop, is always a pleasant affair because it is attended by such pleasant people. It is sponsored by the American Sugar Cane League and the L.S.U. Extension Service and certificates of merit are presented to top producers in the acreage groups of 5 to 49.9 acres, 50 to 99.9 acres, 100 to 199.9 acres, 200 to 499.9 acres, 500 to 999.9 acres, and 1,000 acres or more. Also the 4H Club project winners are honored, and this year a Highest Sucrose Award and a Clean Cane Award were added to the list.

Each year the winners are treated to lunch and to a talk by a top flight figure in the sugar picture. This year our good friend Tom Murphy, recently appointed Head of the Sugar Policy Staff of the USDA, was the principle speaker. Mr. Murphy was a substitute for Horace D. Godfrey, Administrator of the Agricultural Stabilization and Conservation Service, who was detained in Washington by some last minute crisis. Mr. Murphy did a little extemporaneous talking and then read the speech prepared by Mr. Godfrey. He, and the speech, were greatly appreciated.

As is the case at all such gatherings, there was a head table. Seated at this table to honor the High Yield Awards winners, in addition to Mr. Murphy, were Dr. J. Norman Efferson, Dean of the L.S.U. College of Agriculture; Josiah Ferris, Manager of the Washington Office of the American Sugar Cane League; J. H.

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IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

1963 Crop Estimate

Everyone, or all but the dyed in the wool pessimist, agrees that this crop will be as good or better than the record busting 1961 cane crop. Even those who persist in labeling themselves realists believe that this crop will match the 1961 crop.

Again this year the writer will go way out on a limb to predict that Louisiana mills will grind approximately 7,600,000 tons of cane and will produce about 25.5 tons of net cane per acre for the State average. Weather permitting, Louisiana has about 300,000 acres of cane to grind. If weather conditions are favorable and Louisiana can equal the past five year average of 177 pounds of sugar per net ton ground, Louisiana will make 673,000 tons of sugar, raw value. This will be an all time high. Many people who also travel the Louisiana sugar belt feel that this is a rather conservative estimate. However, it must be remembered that many things can happen between now and the time that sugar is "in the bag."

Most growers are aware of the size of this crop and are anxious for grinding operations to start. Most mills are hoping to begin grinding earlier than usual this year, sucrose and purity permitting. Reports from many mills indicate that starting dates will be on or before Monday October 7, again sucrose and purity permitting.

Growers should remember that mills must have enough cane to grind once grinding operations begin. When mills begin to grind, all growers should start with their full quota of cane to the mill. Growers who are anxious for mills to begin grinding early use the old phrase "a bird in the hand is worth two in the bush." Though everyone hopes that early freezes will not come, it is somewhat unlikely that middle to late December freezes will not occur. It is hoped that the December freezes will be only mild because from the estimated size of this crop more than the usual number of mills will be grinding after the Christmas Holidays.

Reports from several mills have indicated that both sucrose content and purity are steadily improving. The cool nights of the past several days should improve quality even more for the coming week.

Growers are reminded that clean fresh cane to the mill not only helps the mill, but makes more money for the grower. Carefully designed experiments over a number of years prove this beyond any doubt.

Although topping too high should not be a problem to any great extent for most of the cane in the belt this year, topping could be somewhat of a problem in some of the older scrappy stubble cane early in the season. Fortunately there is not very much of this around. Most growers know that high topping increases trash and reduces both sucrose content and purity.

Sucrose reports received to date show again this year that C. P. 48-103 leads all other varieties. Several reports received also show that N. Co. 310 is maturing fairly early again this year. It is hoped that both C. P. 52-68 and C. P. 44-101 mature early this year since the greater part of the crop is planted to these two varieties.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Don't Blame The Members

Congress is now passing the three quarter pole and entering the home-stretch in an exhausting, frustrating year-long race against time. The race actually is not a fast one. For weeks on end it has been slower than a snail's pace. But regardless of the ground covered or problems solved, the clock keeps ticking away at the usual rate of sixty seconds to the minute, sixty minutes to the hour, and each 30 to 31 days a page is torn off the calendar. Now that there are only three pages left on the 1963 calendar the pace is increasing.

The pressure of the session-end rush is expected to exceed all previous records. Some senators and representatives feel the hectic days ahead may cost the lives of some of their colleagues. So far this year five members have died. The erratic ups and downs of the unusually strenuous and complicated program of legislation are blamed for much of the physical strain and poor health of numerous members.

Congress has been in session nine months but very few major bills have been brought to the floor of either House to be voted upon. Only three appropriation bills, none a major one, have been approved. Breaking the legislative log-jam seems a hopeless task. Congressional leaders no longer try to lead but are busy cracking their whips in the rear trying to drive recalcitrant members along the legislative paths selected by the two major political parties.

The Senate Rules Committee has approved the establishment of a Senate-House Committee to review Congressional machinery with a view to modernizing it so that it can better cope with the Space Age problems but the odds are against any real reforms coming out of such a study this year or next.

Members of Congress should not be blamed for this long-drawn-out session. It is fortunate for the country that so many representatives and senators have adopted a cautious attitude toward some of the highly controversial legislative proposals with which they have been confronted.

The multi-billion dollar question is, "Can Congress pass the tax bill, the civil rights bill and the major appropriation bills in the relatively short legislative time left in 1963?"

Ellender's Motion Picture

Senator Allen J. Ellender, Louisiana's senior senator, is also a motion picture producer. A two-hour color picture, produced, photographed and narrated by the Senator made its debut September 23. Senator Ellender showed the film to members of Congress and invited guests in the Auditorium of the New Senate Building.

The film is a photographic report of Senator Ellender's trip through Africa last Fall. The photography is excellent and the narration is the inimitable Allen Ellender at his best.

The picture is interesting, informative, and delightfully entertaining except possibly to some officials of the State Department and columnist Drew Pearson.

ADDRESS BY PRESIDENT THOMAS M. BARKER AT THE ANNUAL MEETING OF THE AMERICAN SUGAR CANE LEAGUE SEPTEMBER 26, 1963, ROOSEVELT HOTEL, NEW ORLEANS

Gentlemen:

In this, my last appearance before you as President, I cannot help but reflect upon the pleasant years during which I have had the honor and privilege of serving you in that capacity and at the same time I feel compelled to search into the future and present to you some of the factors which I feel will play important parts in the further development of our industry.

We are about to start what, by some, is predicted to be the largest sugar cane crop ever harvested in the State of Louisiana. The position in which we find ourselves today of anticipating our largest harvesting season and the most favorable price outlook is not one which has just happened but rather is one which is the product of the combined efforts of many people.

In my opinion we in the sugar industry of the State of Louisiana are represented by the best talent which has ever represented us in the halls of Congress. Too often we are prone to accept what is accomplished for us by our Congressional delegation as being that which they are elected to do and we reserve to ourselves the right to criticize them on all other matters.

The difficulties which the members of our delegation must face in the halls of Congress in obtaining for their areas those benefits which are sought by the people they represent must certainly entail many hours of committee meetings and individual discussions. We should be aware at all times of the absolute necessity of measuring our Senators and Representatives on the basis of their overall records of achievement.

For the cooperation which they have extended to the sugarcane industry, I wish to particularly express our thanks to Senators Ellender and Long and to Representatives Willis, Boggs, Hebert and Morrison.

For the most part it has been through their efforts that a new feeling of optimism predominates in the Louisiana sugar industry today.

We should not forget that the combined efforts of the approximately 50 scientists working on sugar cane problems has been necessary in order to bring us to our present position. The scientists, both at the Federal Station at Houma and at LSU, through their cooperative efforts, have provided the Louisiana sugar cane industry with technological improvements so as to make us a leader in agricultural research.

Quite naturally, the capable leadership of our general manager, Mr. Gilbert Durbin, the manager of our Washington office, Mr. Josiah Ferris, the League's attorney, Mr. Paul Borron, Jr., our agronomist, Mr. Lloyd Lauden, and the managing editor of our Sugar Bulletin, Mr. Andrew Dykers, together with the other employees of the League have contributed in substantial measure to the present optimistic attitude.

The sugar cane industry of Louisiana is actually the backbone of the spiritual, social and economic life of the 17 parishes in the rural area of Southern Louisiana in which sugar cane is grown. The economic stability of these parishes in rural Southern Louisiana is interwoven with the economic stability of our industry. Our industry has produced many of our religious, political and business leaders and with the renewed strength which we find in our area today, undoubtedly the economic strength of our industry will continue to be a dominant factor in the progress of our State.

As to the future, like many other industries, we face problems to which we must find the solution.

Our scientists are presently developing newer and better varieties of sugar cane which will produce greater quantities of cane per acre and a higher yield of sugar per ton of cane.

Coupled with this scientific progress we must actually face the need for the development of a harvesting machine which will possess the capability of harvesting recumbent varieties of sugar cane. In my opinion, there remains not more than four years for the solution to this problem to be found.

Again, our Congressional delegation is working to obtain an appropriation to assist in this effort, however, let us face the fact that the industry itself will have to contribute much to the development of such a harvesting machine.

Also, as we view the processing segment of our industry there is much need for a study of the present method of handling sugar cane from the field to the factory. It is my belief that this industry must take the lead in obtaining a complete material handling study of the problem involved and in arriving at a solution to this problem.

It is fairly well accepted that our country needs a stronger sugar industry. One that possesses the capability to provide a substantial amount of the sugar consumed in this country and one that will provide employment for countless thousands of our future generations.

It is my firm belief that with the image which we presently have that we have every reason to anticipate favorable action by the Congress of the United States with respect to a larger increase in our marketing quota.

There are certainly many activities of the League which I have not discussed because time does not permit, however, suffice it to say that the overall success of our organization is measured only in the successful accomplishment of every committee and every member of the various committees who have worked so hard in the past in carrying out their purpose.

As time moves on, it is our destiny that many of our members will fall by the wayside and I ask that you join me at this time by standing in a moment of silence out of respect to the memory of all of the members, both employers and employees, of our industry who have departed this life.

It has been a great privilege and pleasure to serve as your President and I shall always cherish the memory of the honor which you paid to me by permitting me to serve.

UP FRONT

(Continued from page 3)

Arceneaux, Chairman of the Louisiana ASCS Committee, who introduced Mr. Murphy; Kellett Hathorn, Associate State Club Agent of the Extension Service; Dr. E. V. Abbott, Superintendent of the U.S.D.A. Experiment Station at Houma, La.; Dr. Denver Loupe, Sugar Cane Agronomist of the Extension Service; John Cox, Director of the Louisiana Agricultural Extension Service, who was the Master of Ceremonies; T. M. Barker, President of the American Sugar Cane League, who presented the awards; Father James Songy, who offered the invocation; Henry B. Curtis, Councilman of the City of New Orleans, who represented Mayor Schiro; James Graugnard, newly elected president of the Louisiana Farm Bureau Federation; Dave L. Pearce, Louisiana Commissioner of Agriculture; Dr. Charles W. Upp, Director of the Louisiana Agricultural Experiment Station, and Andrew P. Gay who, shortly after the luncheon, was elected President of the American Sugar Cane League.

Even though the head table shown brilliantly with it's array of distinguished citizens, it did not outshine the audience. Seated out front were the High Yield Award Winners who, by their extra efforts, are pointing the way to bigger and better Louisiana sugar cane crops. Along with them were the scientists from the

(Continued on next page)

L.S.U. and Houma experiment stations, who work so tirelessly to give our farmers the new cane varieties and the new agricultural practices that keep our industry moving forward.

Winners

The Louisiana sugar district is divided into five sections for the High Yield Awards contest. The winners for the 1962 crop in the various districts are listed below.

District I — Vermilion, Lafayette, and St. Martin Parishes (average yield, 13.65 standard tons per acre, 20% above average, 16.38 tons).

Group 1—Charles Pullin, Rt. 1, Box 181, Erath, La., 36.76 tons per acre on 5.0 acres. Group 2—Aldes Boudreaux, Sr., Rt. 2, Box 206, St. Martinville, La., 23.3 tons per acre on 79 acres. Group 3—Lawrence Melancon, Rt. 1, Box 243, St. Martinville, La., 27.4 tons per acre on 145.0 acres. Group 4—W. J. Bernard, Bernard Bros., Cade, La., 27.3 tons per acre on 275.7 acres. Group 5—No winner (none 20% above district average). Group 6—Levert-St. John, Rt. 1, Box 10, St. Martinville, La., 18.6 tons per acre on 1718.1 acres.

District II — St. Mary and Iberia Parishes (average yield 24.80 standard tons per acre; 20% above average, 29.76 tons).

Group 1 — Hartman LeJeune, W. Main St., Jeanerette, La., 51.2 tons per acre on 14.9 acres. Group 2—Andrew & Daniel Gonsoulin, Rt. 2, Box 269, New Iberia, La., 37.7 tons per acre on 99.6 acres. Group 3—Lawrence Dugas, Rt. 1, Box 343, St. Martinville, La., 37.0 tons per acre on 196.7 acres. Group 4—H. P. Viator, Rt. 2, Box 258, Jeanerette, La., 40.37 tons per acre on 243.6 acres. Group 5—Patout-Roane, Inc., P. O. Box 192, Jeanerette, La., 35.34 tons per acre on 502.8 acres. Group 6—Duhe Bros. Planting Co., P. O. Box 241, New Iberia, La., 29.4 tons per acre on 1177.1 acres.

District III — Assumption, Lafourche and Terrebonne Parishes (average yield, 24.51 standard tons per acre; 20% above average, 29.42 tons).

Group 1—Thomas Guidry, Rt. 1, Box 192, Raceland, La., 48.2 tons per acre on 7.2 acres. Group 2—R. & R. Chauvin, Box 16, Schriever, La., 39.2 tons per acre on 81.1 acres. Group 3—Charles Brien, Dularge Rt., Box 82, Houma, La., 37.14 tons per acre on 117.5 acres. Group 4 — Matherne Bros., Rt. 1, Box 523, Thibodaux, La., 35.7 tons per acre on 357.0 acres. Group 5 — No winner (none 20% above district average). Group 6—No winner (none 20% above district average).

District IV — Ascension, Iberville, St. James, St. John, St. Charles, and West Baton Rouge Parishes (average yield, 22.81 standard tons per acre; 20% above average, 28.21 tons).

Group 1—Lawrence Roussel, Vacherie, La., 45.7 tons per acre on 20.8 acres. Group 2—David Folse & Son, White Castle, La., 41.8 tons per acre on 63.6 acres. Group 3—Wilson & Ivy Melancon (Ivy, Box 845, Hahnville; Wilson, Raceland, La.) 41.44 tons per acre on 161.0 acres. Group 4—Goldmine Plantation, Edgard, La. (S. J. Rodrigue, Manager) 37.36 tons per acre on 444.3 acres. Group 5—Charles & O. J. Gravois, Vacherie, La., 31.4 tons per acre on 676.8 acres. Group 6 — No winner (none 20% above district average).

District V — Rapides, Avoyelles, Pointe Coupee and West Feliciana Parishes (average yield, 19.84 standard tons per acre; 20% above average, 24.00 tons).

Group 1—Fred David, Oscar, La., 38 tons per acre on 28 acres. Group 2—Jacob, Edwin & Ferdinand Pourciau, Lakeland, La., 31 tons per acre on 55 acres. Group 3—Victor, Louis, Henry & Thomas Jarreau, Oscar, La., 30 tons per acre on 149 acres. Group 4—Albin & Oliver Major, New Roads, La., 28 tons per acre on 290 acres. Group 5 — No winner (none 20% above district average). Group 6—No winner (none 20% above district average).

Special Recognition

In addition to their High Yield certificates, special recognition was given to Alvin and Oliver Major, of New Roads, who became "superior producers" by being high yield winners for five years. The trophy was a special plaque which may not have been solid gold but, from where we sat, it looked like it. Thomas Guidry, of Raceland, won the high sucrose award and the clean cane award went to the Goldmine Plantation, of Edgard, which is managed by S. J. Rodrigue.

Stanley Robert, Jr., of Iberville Parish, was the 4-H Club Project winner with Donald Bourgeois, of Lafourche Parish, and Terry Boudreaux, of St. Mary Parish, runners-up. The American Sugar Cane League presented young Mr. Robert a check in the amount of $150.00 to finance a trip later this year to the National 4-H Club Convention in Chicago.

The Annual Meeting

This year the Annual Meeting of the American Sugar Cane League was simply a continuation of the Annual Awards Luncheon. The agenda of the meeting consisted, for the most part, of the farewell address of President T. M. Barker, of Lockport, La., and the election of a thirty-six member Executive Committee to serve until the next Annual Meeting. The names of the newly elected members of the Executive Committee are on the mast-head of this issue. Mr. Barker's address is in this issue beginning on page six.

New Officers

The newly elected Executive Committee of the League held its first meeting right after the Annual Meeting. As is the case in most organizations, the Executive Committee elects the President and the League's new President, elected by acclamation, is Andrew P. Gay, of Plaquemine, La.

Mr. Gay comes from a distinguished line of Louisiana sugar people. His uncle, Andrew H. Gay, was the first President of the American Sugar Cane League and his father, Edward, who at one time was a United States Senator, was the ninth President of the League. Andrew P. Gay, the League's twenty-second President, operates the St. Louis plantation, south of Plaquemine.

Other officers of the League, elected with Mr. Gay, are Ed. Schexnayder of White Castle, 1st Vice-President; W. S. Chadwick of New Orleans, 2nd Vice-President; J. Malcolm Duhe of New Iberia, 3rd Vice-President; Josiah Ferris, Manager of the Washington Office of the League, 4th Vice-President; Gilbert J. Durbin, General Manager of the League, 5th Vice-President; F. Evans Farwell of New Orleans, Treasurer, and J. J. Munson of Houma, Secretary.

Quotations

Up to this writing, nothing has been heard from the WSBT as to the contents of the 1963 crop Fair Price Determination. We presume, however, that it will call for the pricing period to begin on October 4th and end twenty-one weeks later on February 27th. The Louisiana Sugar Exchange will begin issuing its daily quotations on October 4th and the first weekly average price will be issued on Thursday, October 10th. The Chairman of the Raw Sugar Quotation Committee of the Exchange this year is F. Evans Farwell. The Chairman of the Blackstrap Molasses Quotation Committee is Charles F. Gibbins.

Reassign Scientists

Reassignment of several scientists in USDA sugarcane investigations to more effectively utilize personnel and facilities in Louisiana and Florida has been announced by Dr. Thomas Theis, Chief, Tobacco and Sugar Crops Research Branch, U. S. Department of Agriculture.

Dr. Leo P. Hebert has been transferred from Houma to assume re-

(Continued on next page)

sponsibility for varietal improvement, and agronomic research on sugarcane in Florida, and to serve as Superintendent of the Canal Point Station.

Mr. Preston Dunckelman has been transferred from Canal Point to devote full time to seedling and variety evaluation work at Houma. He will spend part-time at Canal Point during the 1963 breeding season to carry out research now in progress. Duties formerly carried out so effectively by Mr. Dunckelman at Canal Point will be assigned to another plant breeder as soon as possible.

Mr. B. A. Belcher, formerly Superintendent of the Canal Point Station, has been assigned to full-time duties on the World Collection of sugarcane varieties, to accelerate research to develop cold and disease-resistant parental clones and new varieties. Mr. Belcher will have cooperative work at Canal Point, Florida, Beltsville, Maryland, and other Stations as needed to expedite this research.

In addition to reassignment of Dr. Hebert, Mr. Dunckelman and Mr. Belcher, there has been a realignment of research responsibilities of Dr. R. D. Breaux and Messrs. Rouby Matherne, Lester Davidson, and Hugh P. Fanguy at Houma and of Mr. Carl O. Grassl at Canal Point. All reassignments are designed to make the most effective use of personnel, facilities, and funds with major emphasis on developing improved cold- and disease-resistant varieties of sugarcane for Louisiana and Florida.

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Fair Prices

Beginning on page 18 of this issue, we are printing the 1963 Fair Price Determination. We are doing this strictly for the record and for the convenience of our readers because, except for the dates, which are October 4th through February 27th, and the name of the Government agency in charge, the Determination is unchanged from that of last season.

The Agency in charge of the Sugar Act is no longer the plain old "Sugar Division". It now has the high sounding title of "Policy and Program Appraisal Division". Just how these good people managed to take so long to issue an unchanged price determination is slightly beyond us. We would be inclined to lay the blame on the newly created WSBT (Washington Sugar Brain Trust) except that the records indicate this last minute business to be about par for the course.

It seems to us that every year we have to waste time and money on blood pressure pills, wires and telephone calls to Washington trying to locate the Fair Price Determination. It is the gospel truth that we never have found it. Always it is some place other than the place we telephone and the person answering the phone has taken an oath on a mile high stack of bibles to divulge none of its deep dark secrets (like when the pricing period starts and when it ends) until the Secretary of Agriculture signs it.

This year the Secretary, and his assistants who could also sign the Determination, were reportedly in conference some place working on the wheat deal with Russia while the Louisiana grinding campaign began sans any Fair Price Determination. This kind of thing we presume is calculated to win friends and influence people somewhere, but certainly not in the Louisiana Sugar District.

P.S.—We would like to give you some news on the Wage Determination, but we can't find it either.

The Old Mule

The World sugar market is apparently off to the races as we go to press with this issue of the *Sugar Bulletin*. The "World" spot prices is 100 points higher than the Domestic spot, which means that sugar in the "World" market is worth $2.00 more a hundred pounds than the same sugar would be worth delivered New York. This is the kind of situation that existed last spring when our Old Mule went into orbit.

The writer has long ago come to the definite conclusion that predicting the behavior of the sugar market is far beyond his capabilities. Obviously, if we could figure this thing out we would not be pounding this typewriter trying to make a living. There are, however, those who year in and year out have done a pretty good job with their predictions of things to come. Lamborn & Company are among these and we quote the following from one of their recent reports:

"With an effort to be ultra conservative", they say, "and allowing for many changes that will take place in consumption and production estimates between now and the final outturns, we think it safe to say that in

(Continued on page 21)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The Crop

According to the information received from around the belt, all but one sugar factory had begun grinding operation by October 15, 1963. Early reports from a number of mills geographically located throughout the belt show that both sucrose and purity are below par but a gradual improvement is taking place. A simple average of reports from 7 factories show sucrose at 11.6 per cent and purity at 73 per cent for a to-date figure. Although this is not par it is what can be expected in view of the continued warm weather experienced during the last two weeks. It is the writer's opinion that if rainfall had been plentiful during this period, sucrose and purity would have been much worse.

A last minute report from a factory in the Teche area which started on October 14 shows sucrose is averaging below 11 per cent and purity is below what is expected for that sucrose content.

Without exception, reports have confirmed what experimental data have shown for years regarding sucrose and purity of the variety C.P. 48-103. Both sucrose and purity are high in C.P. 48-103 and field yields have been surprisingly good. Early tests have also shown that C.P. 47-193 is maturing early, followed closely by N. Co. 310. A number of reports have indicated that C.P. 52-68 is maturing only fairly early and C.P. 44-101 is lagging behind. Cool weather and particularly cool nights are needed now to hasten maturity. Several reports show trash content is averaging around 8 per cent. Many growers are now harvesting the badly lodged cane and trash content of this type cane is much higher than in erect cane.

Early reports on tons of cane per acre are generally better than preharvest predictions. It is hoped that this crop can be as large or larger than the 1961 crop. Growers are encouraged to be aware of the value of fresh cane. Results from carefully designed experiments conducted over a long period of time show that fresh cane helps both the grower and the processor. Growers are also reminded that this crop is predicted to be a large one and therefore there is always the possibility of freeze damage in December. With this in mind, growers should fill their daily delivery quotas even though sucrose and purities are not as good now as these can be expected to be later. Cane left in the field following a severe freeze is a total loss. Factory capacities have been improved over the past two years in most mills to take care of larger crops but unless enough cane is delivered daily from the first day of grinding until the crop is completed the full value of these improvements will not be realized.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

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More Sugar Price Hearings

Congresswoman Leonor K. Sullivan (D-Mo), Chairman of the House Subcommittee on Consumer Affairs, House Committee on Banking and Currency, has announced that she will soon schedule further hearings, probably later this month, in the subcommittee's continuing study into sugar prices and supplies.

Mrs. Sullivan's committee held hearings last June 5, 6 and 7, which the Congresswoman said represented only the first phase of the inquiry.

When Mrs. Sullivan's subcommittee was assigned the sugar inquiry last May 23, Chairman Wright Patman (D-Tex.) of the Banking and Currency Committee, instructed the Consumer Affairs group not only to look into the reasons for the January-May spiral, but also to ascertain "the prospects of further increases to the American housewife and to small business and other users of sugar". In announcing resumption of hearings Mrs. Sullivan said "the recently renewed pressures on prices in the world and domestic sugar markets lend special timeliness to these hearings, particularly for consumers and users of sugar".

New Appointments: USDA and State Department

The USDA has appointed a new Deputy Director of the Sugar Policy Staff. He is Albert Greenwood, a veteran of thirty years with the Agriculture Department, who has worked on the sugar program since 1942. Mr. Greenwood succeeds Tom Murphy who was appointed Director of the Sugar Policy Staff several months ago.

Al has served as Chief of the Conditional Payments Division and as Chief of the Wage, Price and Commodity Branch of the old Sugar Division. He is a native of Virginia, studied at Elon College, Elon, North Carolina, and has an L.L.B. degree from Southwestern University, Washington, D. C. He is an expert mathematician and his education and experience in the administration of the sugar program eminently qualify him for his present post. Good luck, Al!

Another appointment of unusual interest to the sugar industry has been announced by the State Department. Dr. Miklos Szabo has been appointed International Economist in the Bureau of Economics, Office of International Resources, Division of Foodstuffs, dealing mainly with sugar.

Dr. Szabo is well known in sugar circles, having been Director of Economic and Statistical Research and Vice President of the Czarnikow Rionda Company. He has a Ph.D. in Agricultural Economics from the University of Budapest, Hungary, he has studied Agricultural Cooperatives in Denmark and Holland, is a graduate of the Institute of International Studies, Geneva Switzerland, and has an M.A. degree in International Economics from Yale. For nearly ten years he has had practical experience in the domestic as well as foreign sugar industries. The State Department is to be congratulated on obtaining a man of Dr. Szabo's education and experience as an adviser on sugar.

1963 CROP FAIR PRICE DETERMINATION

Pursuant to the provisions of section 301(c)(2) of the Sugar Act of 1948, as amended, and as further amended by Public Law 87-535 and Public Law 87-539, (herein referred to as "act"), after investigation, and due consideration of the evidence presented at the public hearing held in Houma, Louisiana, on July 18 1963, the following determination is hereby issued:

§ 874.16 *Fair and reasonable prices for the 1963 crop of Louisiana sugarcane.* A producer of sugarcane in Louisiana who is also a processor of sugarcane (herein referred to as "processor") shall have paid or contracted to pay, for sugarcane of the 1963 crop grown by other producers and processed by him, in accordance with the following requirements.

(a) *Definitions.* For the purpose of this determination the term:

(1) "Price of raw sugar" means the price of 96° raw sugar quoted by the Louisiana Sugar Exchange, Inc. except that if the Director of the Sugar Division, Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture, Washington 25, D. C., determines that such price does not reflect the true market value of raw sugar, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination, which he determines will reflect the true market value of raw sugar.

(2) "Price of blackstrap molasses" means the price per gallon of blackstrap molasses quoted by the Louisiana Sugar Exchange, Inc., except that if the Director of the Policy and Program Appraisal Division determines that such price does not reflect the true market value of blackstrap molasses, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination, which he determines will reflect the true market value of blackstrap molasses.

(3) "Weekly average price" means the simple average of the daily prices of raw sugar or blackstrap molasses, for the week (Friday through the following Thursday) in which the sugarcane is delivered.

(4) "Season's average price" means the simple average of the weekly prices of raw sugar or of blackstrap molasses for the period October 4, 1963 through February 27, 1964.

(5) "Net sugarcane" means the quantity of sugarcane obtained by deducting the weight of trash from the gross weight of sugarcane as delivered by a producer.

(6) "Trash" means green or dried leaves, sugarcane tops, dirt, and all other extraneous material delivered with sugarcane.

(7) "Standard sugarcane" means net sugarcane, containing 12 percent sucrose in the normal juice with a purity of at least 76.00 but not more than 76.49 percent.

(8) "Salvage sugarcane" means any sugarcane containing either less than 9.5 percent sucrose in the normal juice or less than 68 purity in the normal juice.

(9) "State Office" means the Louisiana State Agriculture Stabilization and Conservation Service Office, 528 Monroe Street, Alexandria, Louisiana.

(10) "State Committee" means the Louisiana State Agricultural Stabilization and Conservation Committee.

(b) *Basic price:*

(1) The basic price for standard sugarcane shall be not less than $1.06 per ton for each one-cent per pound of raw sugar determined on

the basis of the weekly average price or the season's average price in accordance with whichever period was used by the processor during the 1962 crop, or the processor may use the alternate period upon written approval by the State Office: *Provided,* That the average price of raw sugar as determined above shall be increased 0.03 cent for all mills located in Freight Area (a); shall be unchanged for all mills in Freight Area (b); and may be decreased 0.03 cent in Freight Area (c).[1]

[1] Freight Area (a) includes all mills except those located in Areas (b) and (c) below:

Freight Area (b) includes all mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west of the Atchafalaya River.

Freight Area (c) includes all mills located north and west of New Iberia west of the Atchafalaya River.

(2) The basic price for salvage sugarcane shall be determined in accordance with the method of settlement used by the processor for the 1962 crop, except that the processor and producer may agree upon a different method of settlement subject to written approval by the State Office upon a determination by the State Committee that the method of settlement and the resultant price are fair and reasonable.

(c) *Conversion of net sugarcane to standard sugarcane.* Net sugarcane (except salvage sugarcane) shall be converted to standard sugarcane as follows:

(1) By multiplying the quantity of net sugarcane by the applicable quality factor in accordance with the following table:

Percent sucrose in normal juice	Standard sugarcane quality factor [1]
9.5	0.60
10.0	.70
10.5	.80
11.0	.90
11.5	.95
12.0	1.00
12.5	1.05
13.0	1.10
13.5	1.15
14.0	1.20
14.5	1.25

[1] The quality factor for sugarcane of intermediate percentages of sucrose in normal juice shall be interpolated and for sugarcane having more than 14.5 percent sucrose in the normal juice shall be computed in proportion to the immediately preceding interval.

and,

(2) By multiplying the quantity determined pursuant to subparagraph (1) of this paragraph by the applicable purity factor in the following table: (table on page 20)

(d) *Payment for frozen sugarcane.*

(1) The payment for sugarcane determined pursuant to paragraph (c) of this section may be reduced upon certification by the State Office that sugarcane has been damaged by freeze and that the processing of such sugarcane has adversely affected boiling house operations. Deductions from the payment for such frozen sugarcane shall be at rates not in excess of 1.5 percent of the payment for each 0.1 cc. of acidity above 2.50 cc. of N/10 alkali per 10 cc. of juice but not in excess of 4.75 cc. (intervening fractions are to be computed to the nearest multiple of 0.05 cc.). No payment is required for the amount of sugar recoverable from sugarcane testing in excess of 4.75 cc. of acidity.

(2) In the event a general freeze causes abnormally low recoveries of raw sugar by a processor in relation to the sucrose and purity tests of sugarcane, payment for such sugarcane may be made as mutually agreed upon between the producer and the processor, subject to written approval by the State Office: *Provided,* That the payment for each ton of net sugarcane shall be not less than an amount equal to the total returns from raw sugar and molasses actually recovered from such sugarcane, determined on the basis of

Percent Purity of Normal Juice		STANDARD SUGARCANE PURITY FACTOR[1] Percent Sucrose in Normal Juice															
		At least 9.50	9.70	9.90	10.10	10.30	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.00	15.50
At Least	But not more than	But not more than 9.69	9.89	10.09	10.29	10.49	10.99	11.49	11.99	12.49	12.99	13.49	13.99	14.49	14.99	15.49	15.99
68.00	68.24	1.000	.989	.978	.967	.956	.945	.936	.929	.922	.915	.908	.901	.894	.887	.880	.873
68.25	68.49	1.005	.993	.982	.971	.960	.949	.941	.934	.927	.920	.913	.906	.899	.892	.885	.878
68.50	68.74	1.010	.998	.987	.976	.965	.954	.945	.938	.931	.924	.917	.910	.904	.897	.890	.884
68.75	68.99	1.016	1.003	.992	.981	.970	.959	.950	.943	.936	.929	.922	.915	.909	.902	.896	.890
69.00	69.49	1.021	1.009	.997	.986	.975	.964	.955	.948	.941	.934	.927	.920	.914	.908	.902	.896
69.50	69.99	1.025	1.013	1.001	.990	.979	.968	.960	.953	.945	.938	.931	.924	.918	.912	.906	.900
70.00	70.49	1.030	1.018	1.006	.995	.984	.973	.965	.958	.950	.943	.936	.929	.923	.917	.911	.905
70.50	70.99	1.035	1.023	1.011	.999	.988	.977	.969	.962	.954	.947	.940	.933	.927	.921	.915	.909
71.00	71.49	1.040	1.028	1.016	1.004	.993	.982	.974	.966	.959	.951	.945	.938	.932	.926	.920	.914
71.50	71.99	1.045	1.033	1.021	1.009	.998	.987	.978	.970	.963	.955	.949	.942	.936	.930	.924	.918
72.00	72.49	1.050	1.038	1.026	1.014	1.003	.992	.983	.975	.967	.960	.954	.947	.940	.934	.928	.922
72.50	72.99	1.055	1.043	1.031	1.019	1.007	.996	.987	.979	.971	.964	.958	.951	.944	.938	.932	.926
73.00	73.49	1.060	1.048	1.036	1.024	1.012	1.000	.991	.984	.976	.968	.962	.955	.948	.942	.936	.930
73.50	73.99	1.065	1.052	1.040	1.028	1.016	1.004	.995	.988	.980	.972	.966	.959	.952	.946	.940	.934
74.00	74.49		1.057	1.044	1.032	1.020	1.008	1.000	.992	.984	.977	.970	.963	.956	.950	.944	.938
74.50	74.99		1.062	1.049	1.036	1.024	1.012	1.004	.996	.988	.981	.974	.967	.960	.954	.948	.942
75.00	75.49			1.054	1.041	1.028	1.016	1.008	1.000	.992	.985	.978	.971	.964	.958	.952	.946
75.50	75.99			1.059	1.046	1.033	1.020	1.011	1.004	.996	.988	.981	.974	.967	.961	.955	.949
76.00	76.49				1.051	1.038	1.025	1.015	1.008	1.000	.992	.985	.978	.971	.965	.959	.953
76.50	76.99				1.054	1.041	1.028	1.019	1.011	1.004	.996	.989	.981	.975	.969	.963	.957
77.00	77.49					1.045	1.032	1.023	1.015	1.008	1.000	.993	.985	.979	.973	.967	.961
77.50	77.99					1.049	1.035	1.027	1.019	1.011	1.003	.996	.989	.982	.976	.970	.964
78.00	78.49						1.039	1.031	1.023	1.015	1.007	1.000	.993	.986	.980	.974	.968
78.50	78.99						1.042	1.035	1.026	1.018	1.010	1.003	.996	.989	.983	.977	.971
79.00	79.49							1.039	1.030	1.022	1.014	1.007	1.000	.993	.987	.981	.975
79.50	79.99							1.043	1.033	1.025	1.017	1.010	1.003	.996	.990	.984	.978
80.00	80.49								1.037	1.029	1.021	1.014	1.007	1.000	.994	.988	.982
80.50	80.99								1.040	1.032	1.024	1.017	1.010	1.003	.997	.991	.985
81.00	81.49									1.036	1.028	1.021	1.014	1.006	1.000	.994	.988
81.50	81.99									1.039	1.032	1.024	1.017	1.009	1.003	.997	.991
82.00	82.49										1.035	1.027	1.020	1.013	1.007	1.000	.995
82.50	82.99										1.038	1.030	1.023	1.016	1.010	1.004	.998
83.00	83.49											1.033	1.027	1.019	1.013	1.007	1.000
83.50	83.99											1.036	1.030	1.022	1.016	1.010	1.004
84.00	84.49												1.033	1.025	1.019	1.013	1.007
84.50	84.99													1.028	1.022	1.016	1.010

[1] Factors applicable to higher or lower sucrose and purity of the normal juice than shown in this table shall be determined by the same method of calculation used to compute the factors specified and shall be furnished by the State Office upon request.

the season's average prices of raw sugar and blackstrap molasses less an amount not to exceed $3.00 per gross ton of sugarcane for processing and less the actual costs of hoisting, weighing, and transporting such sugarcane.

(e) *Molasses payment.* The processor shall pay an amount equal to the product of 6.6 gallons times one-half of the average price per gallon of blackstrap molasses in excess of 6 cents for each ton of net sugarcane processed except for (1) salvage sugarcane where settlement is based on the so called "Java Formula", (2) frozen sugarcane testing in excess of 4.75 cc. of acidity, and (3) sugarcane damaged by a general freeze which is tolled by the processor and settlement is based on the net proceeds from the sugar and molasses recovered from such cane. The average price of blackstrap molasses shall be the weekly average price or the season's average price in accordance with whichever period was used by the processor during the 1962 crop, or the processor may use the alternate period upon written approval by the State Office.

(f) *Hoisting, weighing, and transportation.* The price for sugarcane established by this section shall be applicable to sugarcane delivered by the producer (1) to a hoist for loading into the conveyance for transportation to the mill, or (2) from the farm directly to the mill. With respect to sugarcane delivered to a hoist, the costs of hoisting, weighing, and transporting sugarcane from the hoist to the mill shall be paid by the processor or the processor shall make allowances to the producer for such services, based on net sugarcane, at

per ton rates not less than those made with respect to sugarcane of the 1962 crop: *Provided,* That the processor shall not be required to make hauling allowances to the producers in excess of the rates charged by a contract or commercial carrier or the rates which such carrier would have charged for performing such service. With respect to sugarcane delivered directly from the farm to the mill the processor shall pay the cost of transportation or shall make an allowance to the producer for such service, based on net sugarcane, at per ton rates not less than those made with respect to the 1962 crop: *Provided,* That the processor shall not be required to make an allowance to the producer for hauling sugarcane directly from the farm to the mill at rates in excess of 30 cents per ton for distances of one mile or less, 40 cents per ton for distances of 1.1 to 2 miles, plus 5 cents per ton for each mile or fraction thereof in excess of 2 miles; *Provided, further,* That nothing in this paragraph shall be construed as prohibiting negotiations between the processor and the producer, any change to be approved in writing by the State Office upon a determination by the State Committee that the change results in allowances which are fair and reasonable.

(g) *Mutual plan for improving harvesting and delivery.* If a processor and the producers delivering sugarcane to such processor mutually agree upon a plan for improving harvesting and delivery operations, the processor may deduct from the price per ton of sugarcane an amount equal to one-half of the per ton cost of such plan. Such deduction may not be made until the plan has the written approval of the State Office and it has been determined by the State Committee that the plan is fair and reasonable.

(h) *Applicability.* The requirements of this section apply to that sugarcane grown by a producer within the proportionate share for the farm and processed by the processor for the extraction of sugar or liquid sugar.

(i) *Subterfuge.* The processor shall not reduce the returns to the producer below those determined in accordance with the requirements of this section through any subterfuge or device whatsoever.

———o———

UP FRONT

(Continued from page 15)

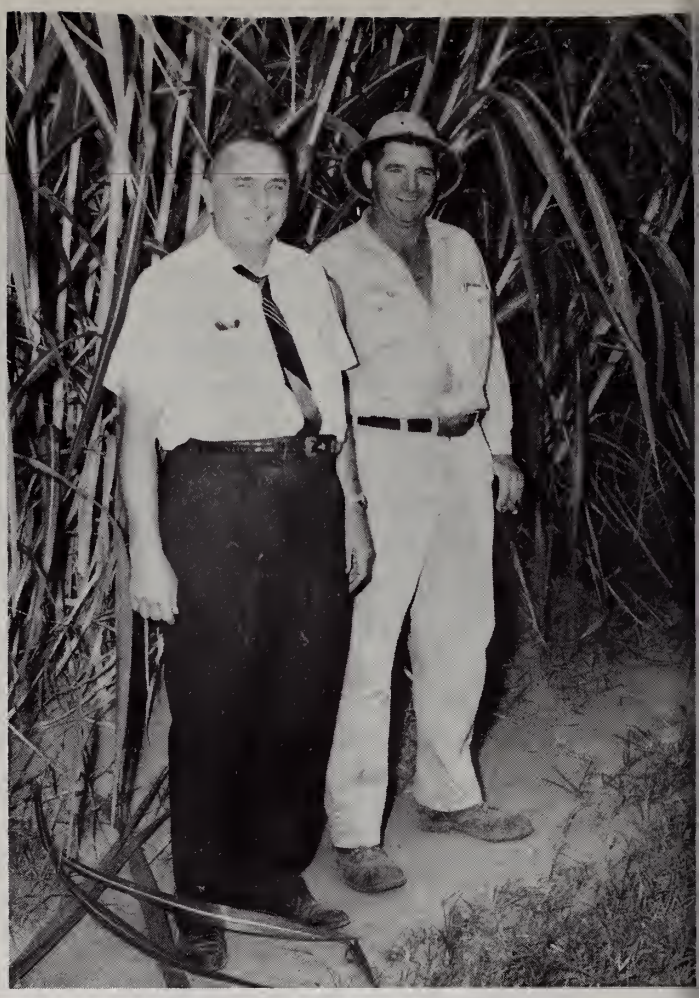
the new crop year of 1963-64 World production will fail to meet World consumption by at least 2,000,000 tons".

Don't look now, but the Old Mule has that look in his eye again.

———o———

Lawrence Roussell
45.7 tons per acre on 20.8 acres

Ridley and Raphail Chauvin
39.2 tons per acre on 81.1 acres



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THE
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414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by A. W. Dykers

Land Owners Organize

Our good friend, David I. Dodenhoff, who is well known in Louisiana sugar circles through his former connection with the Williams interests, has announced the formation of a new association the name of which is "The Land And Royalty Owners of Louisiana".

The new grouping, chartered as a state - wide, non - profit association, has opened headquarters in the Whitney Building, New Orleans, with Col. Dodenhoff as Executive Secretary. Other officers are Emile N. Kuntz, President, M. Lee Shaffer, Vice-President and E. James Koch, Jr., Secretary-Treasurer.

A list of the Board of Directors of the Land and Royalty Owners of Louisiana reads like the "Who's Who" of the Louisiana Sugar Industry. The Board is composed of Alex P. Allain of Jeanerette, Jack C. Caldwell of Franklin, Donald L. Peltier of Thibodaux, Mr. Shaffer, who lives in Houma, Aubert D. Talbot of Napoleonville, Earl H. Willis of St. Martinville, and Mr. Kuntz, John B. Levert, William S. Chadwick and M. Richard Welleman, all of New Orleans.

Wallace C. Kemper is a member of a five - man Executive Committee along with Sam E. Dunman of Houston, Texas, and Edward B. Benjamin, Mr. Koch, and Lawrence M. Williams.

Formation of the new association is the first successful effort to organize the large and small landowners of Louisiana into a significant organization that is interested solely in representation for the owner of land, mineral and hydrocarbon royalties. The association will assist in oil and gas developments in Louisiana and will actively fight any unfair taxes on the gas and oil industry. Mr. Kuntz has stated that it will promote the continuation of present depletion allowances.

Land and royalty owners in Louisiana who are interested in membership in the new organization can obtain a prospectus by writing to Col. David I. Dodenhoff, Executive Secretary, LAROLA, 506 Whitney Building, New Orleans, La. 70130.

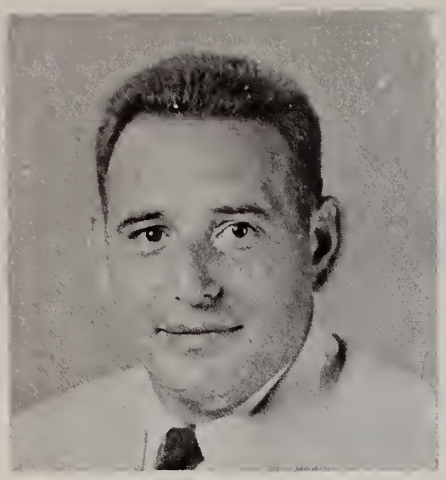
Mr. Taggart Passes On

The Louisiana sugar industry lost one of its most distinguished citizens on Wednesday, October 23rd when Mr. W. D. Taggart, former Director of the Louisiana State Experiment Station, died in Baton Rouge. Mr. Taggart was eighty years old.

During the forty-eight years that Mr. Taggart was connected with the Louisiana Sugar Experiment Station, he rose to a place of eminence among the sugar scientists of the world. The esteem in which he was held by the Louisiana sugar industry was evidenced on March 31st, 1943 when he was made an Honorary Life Member of the American Sugar Cane League. When he retired as Director of the Louisiana State Experiment Station in June of 1954, the membership of the League, in annual meeting, again paid tribute to him by adopting the following resolution.

Whereas—On June 30, 1954 Mr. W. G. Taggart retired from his position as Director of the Louisiana

(Continued on page 35)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

New Unreleased Varieties

An all time record breaking number of 459 new unreleased sugar cane varieties were selected to receive permanent "C. P." and "L." numbers last week by representatives of the L. S. U. Experiment Station, the U. S. D. A. Houma sugar Station and the American Sugar Cane League. Usually only two hundred or less new unreleased varieties are promising enough to be given permanent numbers each year. This does not mean these canes are released for commercial planting, but it does mean that these canes are earmarked for intensive testing for possible release in the future.

In addition to this being the largest number of new canes to have ever been selected during any one year, many of these appear to have excellent sucrose content. Preliminary tests on many of the new unreleased varieties indicate sucrose levels to be as high as 20 per cent better than most of the present commercial varieties being grown in Louisiana. There were several of the new canes which had sucrose contents 30 per cent better than the commercial canes used for comparison purposes. One new cane had a sucrose content of 40 per cent above the comparison varieties.

The new unreleased C. P. (Canal Point, Florida bred) and the L. (L. S. U. bred) varieties will now go into carefully controlled experiments on the L. S. U. Station and on the U. S. D. A. Houma Station for further evaluation. In past years, further tests on the "L." and "C. P." candidates eliminated 90 to 95 per cent of the varieties for one or another reason. Those which continued to show promise were then tested at 12 test fields geographically located around the sugar belt. In past years an average of 8 to 10 new canes have been sent to the test fields around the sugar belt. It is now estimated that in the future 25 to 40 or more new varieties will be transferred to the test fields around the belt for testing each year. The expanded cane breeding program was begun in 1957 and plans are now under way to expand the testing program. Additional facilities and manpower will be required to handle the larger number of canes to be tested.

The Variety Sub-Committee which met earlier this fall decided to continue testing on the Out Field Stations 9 unreleased canes selected in 1960, one cane selected in 1959 and one cane selected in 1958. These same varieties are also being increased on the Primary Stations. The committee also decided to transfer three promising unreleased varieties to Secondary Increase Stations. These are C. P. 58-48, C. P. 59-43 and L. 60-1. These three canes were heat-treated and planted on Secondary Stations this fall. Either or all three of these could be the next new cane release. Test Field experimental results will determine if they should be released to the industry.

Of interest also is the large number of varieties transferred to Primary Stations and Test Fields this year. Twenty-two new C. P. and L. unreleased varieties were transferred.

It is hoped that the expanded cane

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Government Controls?

When Under Secretary of Agriculture Charles Murphy sent a letter to Congress October 14 proposing legislation which would place trading in sugar futures under the Commodity Exchange Act he started a fire which will get hotter and hotter during the next few months until Congress reviews the provisions of the Sugar Act next year. Murphy's letter requested that the Secretary of Agriculture be authorized to set margins in appropriate circumstances in order to reduce excessive and unwarranted price movement. Under normal Congressional procedures, the request was referred to Representative Harold Cooley, Chairman of the House Committee on Agriculture for appropriate action.

Mr. Cooley, in an interview with the press, is quoted as saying that he intended to take no action on the Administration's request before some time next year, if then. "I don't know what this bill would accomplish on speculation that the Secretary cannot do now under the present Sugar Act authority over the consumption estimate, the reallocation of quota deficits and so on. Any action will have to wait until the foreign quota provisions expire next year and the subject of sugar is before my committee." Cooley indicated that the committee would not only review the foreign provisions but also domestic quotas. He said he views the proposed bill as an Administration effort to get off the hook for the mess it has made of sugar prices. Mr. Cooley specifically blames the Administration's global quota plan for the gyrations of the sugar market. He is in favor, he said, of going back to the country - by - country quota system which worked so well for more than a quarter of a century.

Earl T. MacHardy, President of the New York Coffee and Sugar Exchange, commenting on the proposed legislation, said:

> "The recent proposal of the U. S. Department of Agriculture for government control of sugar trading threatens the American consumer with higher sugar prices in the future.—This proposal will in no way assure lower sugar prices. No one will benefit. The proposal is in fact a smoke screen to hide from the public the fact of our present national sugar problem. Recent price escalation is purely the result of world supply and demand. U.S. D.A. officials are apparently so preoccupied with government assurance of ample supplies that they have forgotten that quotas are meaningful only in surplus situations. In time of scarcity, supplies can only be maintained by higher prices. And this country must outbid the rest of the world for sugar supplies which are inadequate to meet world demand."

In the meantime prices continue to rise and the fire gets hotter.

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breeding program will not only increase the number of released canes but will give the industry at least one every few years which is far better than those now in the fields of Louisiana.

AN EFFICIENT DRAINAGE SYSTEM FOR SUGARCANE[1]

Irwin L. Saveson[2]

Adequate surface drainage is imperative in the sugarcane section of Louisiana because the average annual rainfall is 60 inches, many rainstorms fall with a high intensity, and the land has limited slope. The present century-old drainage system was designed when hand labor and mules were used for cane production and for construction and maintenance of the drainage ditches. Planters and agricultural workers have long voiced the need for a more efficient drainage system applicable to mechanization of cane production and drainage maintenance.

The old sugarcane drainage system required a mile of lateral ditches to every 14 to 20 acres of land. Five years of accurate records obtained recently on 2,040 acres reveal the following maintenance cost per annum per acre for this type of system:

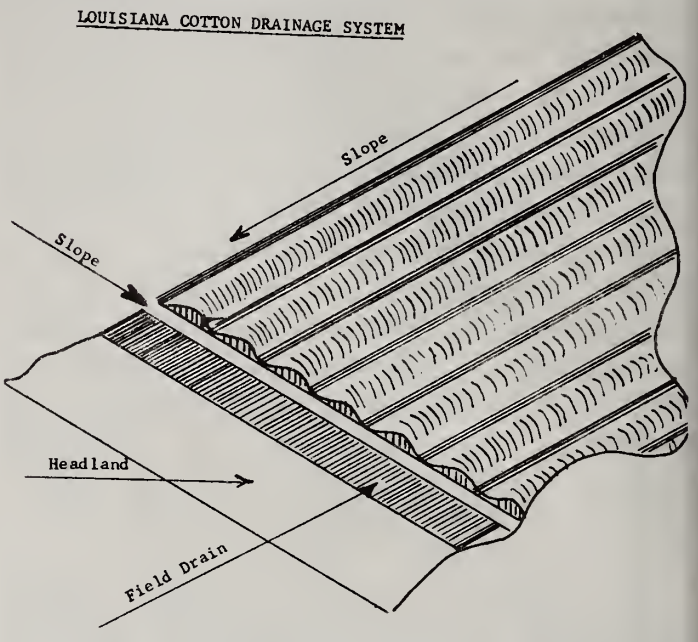
Lateral Ditches, $3.58. — Lateral ditches were rehabilitated after each 3-year cycle of sugarcane by cleaning them with a ditching attachment on a cane loader. The sides were reshaped and approximately 1 foot of earth was removed from the bottom of the ditch. The ditches were mowed at least once each year before the cane was laid by.

Quarter Drains, $3.04. — Quarter drains were opened with a plow after each cultivation and the earth shoveled out of each row middle by hand.

Outlet Canals, $.89.—Outlet canals were mowed or chemically treated at least twice a year and the silt removed with a dragline after each cycle of sugarcane. They were redug every six to eight years.

In the cotton drainage system of Louisiana, one mile of ditch or field drain serves approximately 50 acres of land. This is two to three times that served by a ditch in the sugarcane area. Each row in the cotton drainage system carries its own water to a field drain which transmits the water to an outlet ditch. The field drains are adjacent to a headland. See Figure 1. This system does not require quarter drains. However, the equipment crosses field drains during the farming operations.

Research was started in the spring of 1956 on a system for the sugarcane area by combining the successful cotton drainage system with precision land forming (land leveling). The precision land forming shaped the field into a smooth plane so that



(Figure 1)

excess rainfall could flow from the field directly into the field drains.

Since sugarcane production requires heavier equipment than cotton production, especially in harvesting, the big question was what difficulties would be encountered with heavier equipment crossing the field drains. This problem was thought to be especially acute during wet harvests. Other factors to be evaluated were maintenance cost and adequacy of surface drainage.

This experiment was installed on the Margaret Plantation, Port Allen, Louisiana on medium-textured Mhoon silty clay loam soil. The experimental area included approximately 29 acres, consisting of 13 cuts divided

by 10 lateral ditches and 2 cross ditches. All ditches totaled 6,552 feet and consumed 1.8 acres. Results from this study are enumerated below:

1. The land forming required the moving of 164 cubic yards of earth per acre at a cost of $68.45 per acre.

2. The new drainage system for this 29-acre area eliminated 8 lateral ditches, and included 1,740 feet of ditches and field drains on 0.48 acre of land. Of the 1.8 acres originally in lateral ditches, 1.32 acres, or 4.75 percent of the entire field, was made available for growing sugarcane. This does not include the area formerly occupied by quarter drains.

3. It was not necessary to maintain quarter drains in the new system, eliminating a cost of $3.04 per acre under the conventional old system.

4. Tillage operations were no more difficult with the new system than with the conventional sugarcane drainage system. However, tractor operators had to be trained to raise their implements to continue in the row middle to the ditch. The implements were suspended behind the tractor and when the ditch was crossed the front tractor wheels were raised above the rear wheels, causing the implement to go deeper. If not raised

Harvester Crossing Field Drain, Margaret Plantation Test Area

Precision Land Forming, Margaret Plantation Test Area

at the right time, the implement made a depression that impounded water about 3 feet from the ditch. If raised too fast, soil left in the middle impeded drainage.

5. Harvesting was easier during wet periods in the formed and smoothed fields. The harvesters and tractors with loaded cane carts crossed the field drains with no difficulty.

6. Field drains were located along the headland where they were accessible for mowing Johnson grass and other weeds.

7. Annual maintenance costs for this area over a 3-year period were $0.78 per acre for field drains and $1.51 per acre for outlet ditches, a total of $2.29. This represents a saving of $5.22 per acre per year compared with the cost of $7.51 per acre on the conventional drainage system.

Project observations at other locations and reports from soil conservation district cooperators showed results comparable to those on the Margaret Plantation. One exception was the amount of earth moved in the districts, 300 to 400 cubic yards per acre. This was larger than on the Margaret Plantation but was more typical of normal field conditions. One district reported 449 acres with this system on 10 different farms with an average of 358 cubic

(Continued on next page)

yards of earth moved per acre. Most of these cooperators are enthusiastic about the system and plan to install it on additional areas.

Installation cost of the new drainage system varied with topography and local rates of machine hire, and ranged from $70 to $90 per acre. Some of the new areas were in cane in 1961 and were harvested under extremely wet conditions with less difficulty than in conventionally drained fields.

The success of the Margaret Plantation experiment and experiences of the soil conservation district cooperators have definitely proved that the cotton-type drainage system combined with land forming is practical for sugarcane production.

The procedures used in making the necessary surveys, calculations, and staking are not covered in this paper. Planters have technical assistance available through the Soil Conservation Service and the Extension Service for this phase of establishing the system.

It should be emphasized that this system requires precision work. If precision work is not done it can be very disappointing with impaired, rather than improved, drainage.

Recommendations for Installing and Maintaining the System—

1. The field should be sloped from the headland to the field drain. Use 0.2 ft. per 100 feet with a minimum of 0.1 ft. per 100 feet if the earthmoving is not excessive. The side slope of the field determines the grade of the field drains, which should not be less than 0.1 ft. per 100 feet.

2. A field drain should be 12 inches deep with a minimum of 10:1 slope on the headland side and a minimum of 6:1 on the field side.

3. Because fill settles the first year and minor reworking is necessary, an annual crop should be planted the first year after working the field. Rework the field after the first crop is grown and before the sugarcane is planted.

4. Clean the field drains after layby to remove and smooth out any earth left in the field drain from tillage operations. Clean the drains immediately after harvesting to remove trash and scars that impound water and interfere with winter drainage for the next ratoon crop.

5. To prepare for replanting, flush (plow flat) with a two-way plow and smooth with a land leveler. If a two-way plow is not available, flush the field, keeping the dead furrows and back furrows as small as possible, smooth with a land leveler, put up in rows, and continue the fallow plowing by row breaking.

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[1] Contribution from the Southern Branch, Soil and Water Conservation Research Division, Agricultural Research Service, and the Soil Conservation Service of USDA, and the Louisiana Agricultural Experiment Station.

[2] Agricultural Engineer, USDA, Louisiana State University, Baton Rouge, La.

—o—

S. J. Rodrigue, Goldmine Plantation
37.36 tons per acre on 444.3 acres

PRODUCING SUGAR CANE IN LOUISIANA WITHOUT PUTTING IT ON THE OFF-BAR

S. J. Rodrigue, Gold Mine Plantation, Inc., Edgard, Louisiana

So that you can realize the results that we are getting with this practice of producing cane without putting it on off-bar—I will give you a short history of the Gold Mine Plantation where I have been carrying out this and other practices to help obtain the yields we get.

All of the land on this plantation has been in sugar production for the last 60 years or more in a crop rotation of cane, corn and peas; or soybeans and peas or soybeans. During the past 13 years, we have brought in a livestock program and changed this rotation to where we put about 5 percent of our land in pasture for about three years and hog-off about 25 acres of corn each year before it goes into sugar cane. The rest of the land still has a rotation of cane three years, then corn and soybeans, or clover for one year.

Our livestock consists of 24 brood sows, 350 market hogs a year, 400 ewes, 200 lambs, 40 brood cows and 25 yearling steers and heifers.

We have a total land area of 890 acres, with measured crop land of 700 acres, of which 40 acres is heavy soil and the balance sandy to light mixed.

Prior to 1940, we grew 500 acres more or less of cane and 200 acres of corn and peas or soybeans, producing 13 tons of sugar cane per acre and 15 bushels of corn per acre. Before 1950 we had a full infestation of Johnson grass and, because of the need of corn for mule and hog feed, we had very little land that we could fallow plow. Therefore, we did not make much progress in Johnson grass control under the fallow plowing program and soon gave it up.

We have had our best grass control with our livestock, particularly the sheep, with the help of chemicals. We also have improved our drainage with land crowning and good ditches.

Having to produce corn along with sugar cane — and in those days of poor production we had a very limited working power—we were at a loss as to what work to do first in the spring. We knew that if we delayed in off-barring, dirting the cane, and applying fertilizer, the cane crop would suffer. And by the same token, if we delayed in our land preparation for corn, our corn crop would fail. Every year we were faced with the same problem, and never found a better solution.

While reading Extension Circular Number 151, titled "Sugar Cane Production for South Louisiana", I got the idea for the method of cultivation which we are now doing. From this circular, under the title of "Cultivation", I quote:

"But the off-bar furrow should not be run until the cane has clearly shown that it is approaching the stage when we can expect it to come to a stand. This is particularly true in the case of stubble cane and it is true because the off-bar furrow has to prune the greater portion of the old root system. Experiments have shown conclusively that this old root system functions in feeding the young cane until it has established its own root system and for that reason, as much of it as is possible should be left intact as late in the season as is practicable." End quote.

With this information I felt I was right in trying off-barring and dirting back in the same operation without using stubble diggers and hoeing. In 1948 we tried this on a small acreage with a double chopper. Results were good so we gradually increased use of this method on additional acreage every year. By 1952 we were cultivating our entire crop in this manner. This method was a big help in the early spring, as it gave us a

(Continued on next page)

chance to get our corn land ready without delaying the cane work.

In 1955 I designed an implement to apply the fertilizer in the same operation. This implement consists of two light subsoiler shanks 26 inches apart mounted on a tool bar to apply the anhydrous ammonia. The ammonia is released on both sides of the subsoiler point, which places the ammonia 12 to 14 inches below the top of the row. I also release a small amount of ammonia six to eight inches below the top of the row against the stubble, for early growth. On the same tool bar to which the subsoilers are mounted, I have a conventional dry fertilizer box, which is ground driven, to apply potash. The potash is placed 6 to 12 inches deep in each side of the row in the subsoiler opening. I installed two 26 inch notched coulters in front of the subsoilers to cut the cane roots so that the subsoilers would not pull up the stubble and would not leave too large an opening on each side of the stubble. Thirty inch coulters would have been better, but they are not available at present. On a tool bar 19 inches back of the front one, I have one cultivator disc gang for each side of the row to bring the soil back to the stubble. Two gauge wheels, which also act as press wheels, seal the ammonia in the soil.

In this one operation we broke the soil 12 to 14 inches deep on each side of the row, applied anhydrous ammonia at two levels and in six areas, applied a dry fertilizer at two levels, put the row back up, and pressed the soil on each side of the row. We have done that without putting the cane on the off-bar furrow and have waited to do it until after the cane was up. Our plant cane is off-barred and dirted back in one operation with a double chopper to which we have the conventional ammonia applicators attached, with a conventional dry fertilizer box mounted on the chopper frame to apply fertilizer in this one operation.

I have used this method on our entire crop for the last five years and have averaged above 30 tons each year, 37 tons for the '62 crop, without the varieties of N.Co. 310, C.P. 52-68 and with only 20 acres of C.P. 44-101. During that five year period we have maintained one third of our cane acreage in plant cane, one third in 1st year stubble, and one third in second stubble.

The plant cane was planted at the end of September and in early October following a corn crop.

Besides the number of trips around the field this method of cultivation eliminated, I find it is a big help in grass control because the same soil that was on top in the middles during the plant cane year is still more or less on top during the stubble crops. We clean it during the plant cane year so there are less seeds to germinate during the stubble crops. Also, we do not burn the trash left in the middles from the harvested crop. That helps build the organic matter in our soils.

We use 175 units of nitrogen in our second year stubble and 150 units in the first year stubble. This gives the cane lots of growth and therefore when we harvest we have to top very low to get a standard sucrose. Because of this high rate of fertilizer, we left 15 percent of the harvested crop in the field last year by topping low. But we still averaged 37 tons per acre.

Some of the advantages of this high rate of fertilizer application are:

1) High tonnage of organic matter put in the soil to improve it.
2) Delivery of clean cane to the mill, that is cut and burned the same day because all the green leaves are cut off. Because the cane is tall, heavy and grew fast there is very little grass in the middles.
3) With all this extra growth, we have better protection from an average Louisiana freeze.
4) The fertilizer is applied deep so that the cane gets it instead of the grass and, being as the

cane is growing rapidly it soon shades out the grass.

We are controlling the Johnson grass on our ditches by mowing until September and following the mowing with grazing by sheep.

We use for seed only plant cane that has been rogued for Mosaic and heat treated for Ratoon Stunting Disease (RSD). We have made yields of 45 tons with second stubble on land where we followed the livestock and pasture rotation and believe that in the near future we can average 50 tons per acre.

May I suggest that anyone trying this method of cultivation with the subsoilers do it on a small acreage, especially in the heavy soils because of the danger of the subsoiler leaving a hollow in the ground on the sides of the stubble. It is better to leave the row of stubble as is than to chop it before coming in with the fertilizer applicators. The ammonia will stay in better in firm soil.

I thank you.

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UP FRONT

(Continued from page 35)

State Experiment Station after serving the Louisiana sugar industry for a period of forty-eight years, and

Whereas — Mr. Taggart, in the course of his almost half century of work with the Louisiana State Experiment Station, has been of outstanding service to the cane farmers of Louisiana and the cane sugar industry of the entire world through his studies of both the agricultural and manufacturing problems that have confronted the sugar industry since he began his scientific research with the Experiment Station in the fall of the year nineteen hundred and six, and

Whereas—in the course of his long connection with the Louisiana sugar industry Mr. Taggart has not only been an outstanding man of science, but also an outstanding friend to the countless number of people with whom he has come in contact during his career as a teacher and counselor at Louisiana State University; therefore

Be It Resolved—that we, the members of the American Sugar Cane League convened today in our Annual Meeting, do hereby desire to officially express our appreciation of Mr. Taggart's accomplishments in our behalf and to wish him every happiness in the years that lie ahead.

Be It Further Resolved—that this resolution be made a part of the minutes of this meeting and that a copy of it be sent to Mr. Taggart with our compliments for a job well done.

We repeat: The Louisiana sugar Industry lost one of its most distinguished citizens when Mr. Taggart died in Baton Rouge on October 23rd.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

(Title 39, United States Code, Section 233)

Of The Sugar Bulletin, published semi-monthly at New Orleans, La., for October 1, 1963, State of Louisiana, Parish of Orleans.

Before me, a Notary Public in and for the State and parish aforesaid, personally appeared Gilbert J. Durbin, who, having been duly sworn the Editor of the Sugar Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit.

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Editor, Gilbert J. Durbin, New Orleans, La.; Managing Editor, Andrew W. Dykers; Business Manager, none.

2. That the owner is the American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Andrew P. Gay, Plaquemine, La., President; Ed. Schexnayder, White Castle, La., Vice President; J. J. Munson, Houma, La., Secretary; F. Evans Farwell, New Orleans, La. Treasurer.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are none.

4. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 6,000.

GILBERT J. DURBIN,
Editor.

Sworn to and subscribed before me this 1st day of October, 1963.

BRITTMAR P. LANDRY.
Notary Public.

(Seal)

(My commission expires at death.)

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THE SUGAR BULLETIN

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in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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IN THE FIELD WITH LLOYD L. LAUDEN

by Lloyd L. Lauden

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Storm Lodges Cane

Heavy rainfall and strong winds beginning about midnight Friday November 8 and extending through most of the week end pushed to the ground or lodged a considerable amount of Louisiana's cane crop now being harvested.

In the Bayou Lafourche area where rainfall exceeded 8 inches and winds were estimated at about 45 miles per hour, 60 to 80 per cent of the standing cane was pushed to the ground.

Reports from cane growers along the Mississippi River indicated about 40 to 60 per cent of the cane was blown down. Considerable damage has also been reported in the Terrebonne area of the belt. The Bayou Teche area did not receive as much rainfall nor were winds as strong as in the Lafourche area. The degree of damage reported in the Teche area varies from 40 per cent of the cane down to no damage at all. No reports of damage have been received from the Bunkie-Meeker area of the belt.

The badly lodged or the completely downed cane will cause serious problems in Louisiana where virtually 100 per cent of the cane crop is normally harvested by a machine, designed primarily to cut erect or only slightly lodged cane. Harvesting rates in the badly lodged cane will be reduced by one half. Growers will have to operate the harvester twice as long to cut the same amount of cane per day. Mechanical failures in equipment will almost double in the harvest of this type of cane. The overall or net effect of this will be much more work and expense in the harvest of this crop.

Cane growers have already buckled down to the full realization that the crop must be harvested with the mechanical harvester since an experienced supply of hand labor is no longer available in Louisiana. Additional labor will be required to scrap cane which the harvester misses or drops before delivering it to a heap row.

Many growers have already made adjustments on the gatherer system of the pickup attachment to handle lodged cane. Some growers are cutting cane only in one direction. A few growers have reported very good results with burning lodged cane before cutting. This has an effect of reducing chokes in the topping area of the harvester.

Cane growers have not panicked. They know handling downed cane will be very difficult but they are determined to harvest this bumper crop with the mechanical harvester with the help of additional scrappers.

Cane harvester manufacturers and servicemen are doing everything they know how to help the industry. Both J. & L. Engineering Co. and Thomson Machinery Company are devoting their full time to this serious problem.

A report from Mr. Marcel Mitchie of Thomson Machinery shows that there are 681 Thomson harvesters now operating in Louisiana. Of this number, 240 were built during the period 1960 through 1963 and all of these are equipped with a pick-up attachment to handle lodged cane. Of the 441 other harvesters now in use and built prior to 1959, about 230 have since had pick-up attachments installed on the machine. This makes a total of 470 Thomson harvesters in the field with pick-up attachments. Since the windstorm and heavy rainfall, Mr. Mitchie reports that 10 more attachments are now being installed on Thomson harvesters.

Mr. Mitchie also reports that there are 24 service trucks equipped with two-way radios operating full time throughout the belt as well as 21 mechanics doing services in their shops around the belt. Four new harvesters are now on order. All possible effort is being made to deliver these in the shortest possible time. Thomson Machinery Company is also installing a special experimental attachment for the pick-up chains. This and a change of sprockets on the pick-up attachment has given additional help to pick up lodged cane.

Mr. Joe Pugh of J. & L. Engineering Company reports that their company has already added personnel to their crews to take care of the overload resulting from the lodged cane conditions. Additional service parts have been stocked to minimize lost time to growers. Both Mr. Larry Lampo of J. & L. Engineering Co. and Mr. Pugh report that every effort possible is being made to install attachments as rapidly as possible as well as to get additional diesel engines to replace gasoline and L. P. gas engines.

The J. & L. representative states that the diesel engine power characteristic is such that at reduced engine r.p.m. the torque remains relatively high whereas with gasoline and L. P. gas engines at reduced r.p.m. the torque drops off rapidly. Slower speeds with maximum torques allow for better handling of downed cane, eliminating breakage and uprooting.

Mr. Pugh also reports that an urgent survey is presently being made with his

(Continued on page 47)

WAGE RATE DETERMINATION FOR FIELD WORKERS

Editor's note: On this, and the following six pages, we are printing the original 1963 wage determination and an amendment to it. The original determination was effective October 18, 1963. It was amended effective November 4, 1963.

The amendment was not retroactive. Therefore, wages and bonuses paid for work during the period October 18 through November 3 must be paid according to the provisions of the original determination. After that date, wages and bonuses to be paid are governed by the determination as amended.

Production and cultivation work wage rates are not effective until January 1, 1964.

TITLE 7—AGRICULTURE

CHAPTER VIII—AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE (SUGAR), DEPARTMENT OF AGRICULTURE

SUBCHAPTER H — DETERMINATION OF WAGE RATES

(Sugar Determination 864.10)

PART 864—WAGES:

SUGARCANE: LOUISIANA

Pursuant to the provisions of section 301(c)(1) of the Sugar Act of 1948, as amended, and as further amended by Public Law 87-535 and Public Law 87-539 (herein referred to as "act"), after investigation, and consideration of the evidence obtained at the public hearing held in Houma, Louisiana, on July 18, 1963, the following determination is hereby issued:

§ 864.10 *Fair and reasonable wage rates for persons employed in the production, cultivation, or harvesting of sugarcane in Louisiana.* (a) *Requirements.* A producer of sugarcane in Louisiana shall be deemed to have complied with the wage provisions of the act if all persons employed on the farm in production, cultivation, or harvesting work shall have been paid in accordance with the following:

(1) *Wage Rates.* All such persons shall have been paid in full for all such work and shall have been paid wages in cash therefor at rates as agreed upon between the producer and the worker, but not less than the following:

(i) *For work performed on a time or piecework basis:*

Class of Worker or Operation	Rate Per Hour
Harvest Work	
Operators of mechanical loading or harvesting equipment	$1.05
Tractor drivers, truck drivers, and harvester bottom blade operators	1.00
Loaders, spotters, ropemen, grabmen, and teamsters	.95
Cutters, toppers, strippers, scrappers behind loaders, cutters and loaders, pilers, and hoist operators	.90
All other harvesting workers	.85

	Rate Per Ton
Cutting top and bottom:	
Large barrel varieties[1]	$1.35
Small barrel varieties[2]	1.55

Production and Cultivation Work	Rate Per Hour
Tractor drivers	$ .95
All other production and cultivation workers	.85

[1] Large barrel varieties: Co. 290; C.P. 29/103; C.P. 29/116; C.P. 32/243; C.P. 36/13; C.P. 36/105; C.P. 29/120; C.P. 43/47; C.P. 44/101; C.P. 44/155; N.Co. 310; C.P. 47/193; C.P. 48/103; C.P. 52/68; and C.P. 55/30.

[2] Small barrel varieties: All other.

(ii) *Workers between 14 and 16 years of age when employed on a time basis.* For workers between 14 and 16 years of age, the wage rate per hour (maximum employment is 8 hours per day for such workers without deduction from Sugar Act payments to the producers) shall be not less than three-fourths of the applicable hourly wage rates for adults provided under subdivision (i) of this subparagraph.

(iii) *Bonus Payment for work performed on a time basis.* The rates

er hour under subdivision (i) of his subparagraph for harvest work hall be increased by 1.5 cents per our for each full one-tenth cent per ound by which the season's average rice for raw cane sugar as defined n SD 874.16 (28 FR 11049) exceeds he average price per pound for raw ane sugar for the three year period, 957-59, (determined to be 6.21 cents er pound) as adjusted by the relaionship of the average parity inlexes for the five-month period, October 1963 through February 1964, o the average parity indexes for the hree year period, 1957-59:

Provided, That if the Secretary announces on or before February 27, 1964, that the 1963 Louisiana sugar cane crop was so substantially damaged by weather that the total outturn of sugar from the crop was less than 500,000 tons the increase in wage rates provided for in this subparagraph shall not become effective. The definition of the term "parity index" in section 201 of the act shall apply to the determinations made hereunder.

(iv) *Other piecework rates.* For any piecework performed on a unit basis for which a rate is not specified in subdivision (i) of this subparagraph, the rate shall be as agreed upon between the producer and worker: *Provided,* That the hourly rate of earnings of each worker employed on piecework during each pay period (such pay period not to be in excess of two weeks), shall average for the time worked at piecework rates during such pay period not less than the applicable hourly rate prescribed in subdivisions (i) and (ii) of this subparagraph.

(2) *Compensable working time.* For work performed under subparagraph (1) of this paragraph, compensable working time includes all time which the worker spends in the performance of his duties except time taken out for meals during the work day. Compensable working time commences at the time the worker is required to start work and ends upon completion of work in the field. However, if the producer requires the operator of mechanical equipment, driver of animals, or any other class of worker to report to a place other than the field, such as an assembly point or a tractor shed, located on the farm, the time spent in transit from such place to the field and from the field to such place is compensable working time. Any time spent in performing work directly related to the principal work performed by the worker, such as servicing equipment, is compensable working time. Time of the worker while being transported from a central recruiting point or labor camp to an assembly point located on the farm, or from a central recruiting point to the field, is not compensable working time.

(3) *Equipment necessary to perform work assignment.* The producer shall furnish without cost to the worker any equipment required in the performance of any work assignment. However, the worker may be charged for the cost of such equipment in the event of its loss or destruction through negligence of the worker. Equipment includes, but is not limited to hand and mechanical tools and special wearing apparel, such as boots and raincoats, required to discharge the work assignment.

(b) *Workers not covered.* The requirements of this section are not applicable to workers performing services which are indirectly connected with the production, cultivation, or harvesting of sugarcane, including but not limited to mechanics, welders, and other maintenance workers and repairmen.

(c) *Proof of compliance.* The producer shall furnish upon request to the appropriate Agricultural Stabilization and Conservation County Committee acceptable and adequate proof which satisfies the Committee that all workers have been paid in accordance with the requirements of this section.

(Continued on next page)

(d) *Subterfuge.* The producer shall not reduce the wage rates to workers below those determined in accordance with the requirements in this section through any subterfuge or device whatsoever.

(e) *Claim for unpaid wages.* Any person who believes he has not been paid in accordance with this section may file a wage claim with the local County Agricultural Stabilization and Conservation Committee against the producer on whose farm the work was performed. Such claim must be filed within two years from the date the work with respect to which the claim is made was performed. Detailed instructions and wage claim forms are available at the local County ASCS office. Upon receipt of a wage claim the County office shall thereupon notify the producer against whom the claim is made concerning the representation made by the worker. The County ASC Committee shall arrange for such investigation as it deems necessary and the producer and worker shall be notified in writing of its recommendation for settlement of the claim. If either party is not satisfied with the recommended settlement, an appeal may be made to the State Agricultural Stabilization and Conservation Committee, 3737 Government Street, Alexandria, Louisiana, which shall likewise consider the facts and notify the producer and worker in writing of its recommendation for settlement of the claim. If the recommendation of the State ASC Committee is not acceptable, either party may file an appeal with the Deputy Administrator, State and County Operations, Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture, Washington 25, D. C. All such appeals shall be filed within 15 days after receipt of the recommended settlement from the respective committee, otherwise such recommended settlement will be applied in making payments under the act. If a claim is appealed to the Deputy Administrator, State and County Operations, his decision shall be binding on all parties insofar as payments under the act are concerned.

(f) *Effective period.* The provisions of this section applicable to harvest work shall become effective on the date of filing this section with the Federal Register and the provisions for production and cultivation work shall become effective on January 1, 1964, and the provisions of this section shall remain in effect until amended, superseded, or terminated.

Statement of Bases and Considerations

(a) *General.* The foregoing determination establishes fair and reasonable wage rates to be paid for work performed by persons employed on the farm in the production, cultivation, or harvesting of sugarcane in Louisiana as one of the conditions with which producers must comply to be eligible for payments under the act.

(b) *Requirements of the act and standards employed.* Section 301(c)(1) of the act requires that all persons employed on the farm in the production, cultivation, or harvesting of sugarcane with respect to which an application for payment is made shall have been paid in full for all such work, and shall have been paid wages therefor at rates not less than those that may be determined by the Secretary to be fair and reasonable after investigation and due notice and opportunity for public hearing; and in making such determinations the Secretary shall take into consideration the standards therefor formerly established by him under the Agricultural Adjustment Act, as amended (i.e., cost of living, prices of sugar and by-products, income from sugarcane, and cost of production), and the differences in conditions among various producing areas.

(c) *Wage determination.* This determination differs from the prior determination in the following respects; it increases the minimum time rates for each operation 15 cents per hour; increases the minimum

piecework rates for cutting large and small barrel varieties of sugarcane 25 cents per ton; provides for the payment of a bonus to harvest workers if the season's average price of raw sugar for the 1963 crop exceeds the average of the raw sugar price objective of the Act during the same period; and lists a new large barrel variety of sugarcane for piecework rate purposes.

A public hearing was held in Houma, Louisiana on July 18, 1963, at which interested persons were afforded the opportunity to present testimony as to whether the wage rates established by the determination which became effective October 26, 1962, continue to be fair and reasonable or whether the determination should be amended. The notice of hearing specifically requested information and recommendations on the elimination of the differential in wage rates between harvest work and production and cultivation work for tractor drivers.

An agricultural economist with the Louisiana State University testified regarding economic studies of the costs and returns from the operation of sugarcane farms in Louisiana. He stated that returns and costs data indicated that large sugarcane farms realized a net profit of $1.44 per ton of cane of the 1961 crop, compared with a net income of 42 cents a ton for the 1960 crop and a loss of 38 cents a ton for the 1959 crop; that family-type (small) sugarcane farms realized a net income of $2.86 per ton of cane of the 1961 crop compared with a net income of 79 cents per ton in 1960 and a loss of 86 cents a ton in 1959; that for the large sugarcane farms direct labor costs during the 5-year period 1954-58 accounted for 48 percent of the total direct costs for growing and harvesting sugarcane compared with 51 percent for the 25-year period 1937-61 and 47 percent for the 3-year period 1959-61; that for family-type farms for the 5-year period 1954-58, direct labor costs accounted for 39 percent of the total costs compared with 45 percent for the 24-year period 1938-61 and 36 percent for the 3-year period 1959-61; that labor costs have not decreased proportionately with man hours; and that labor has received a larger share of the benefits of improved technology than the grower. The witness made no recommendations regarding wage rates.

The chairman of the Employee Relations Committee of the American Sugar Cane League recommended that the minimum wage rates for harvest workers and for production and cultivation workers be increased 10 cents per hour and that the piecework rates for cutting sugarcane be increased 10 cents per ton, if at the time the determination is made it is the judgment of the Department that the price of raw sugar will be 7.40 cents per pound, or more, during the Louisiana sugarcane pricing period; that the harvesting wage rates for the 1963 crop be determined separately from the production and cultivation wage rates for the 1964 crop; and that these determinations be issued as late as possible, prior to the commencing of the respective operations.

A representative of the Louisiana Farm Bureau Federation concurred in the wage rate recommendations made by the representative of the American Sugar Cane League, for the 1963 crop, but for subsequent crops he recommended that beginning March 1, 1964, a continuing determination be established on the basis of a 3-year moving average of the average price received for raw sugar during the Louisiana pricing period; that for each one percent increase reflected by this 3-year average price above $6.50 per hundredweight the determination wage rates be increased one percent above their present level; and that once a year minimum determination wage rates be adjusted immediately after the Louisiana pricing period ends. The witness stated further that Louisi-

(Continued on next page)

ana sugarcane producers had not participated in the high sugar prices which occurred in April and May of 1963 because the pricing period for Louisiana sugarcane ended February 28, 1963 at which time the raw sugar price was 6.92 cents per pound, the highest price reached during the 1962-63 Louisiana pricing period, and that he opposed the elimination of the differential in wage rates for tractor drivers because working conditions during harvesting are so much more difficult and the pressure to finish before cold weather is so great that, to obtain labor, producers would have to offer to pay workers a higher wage than for similar work performed during the production and cultivation season. No testimony was presented by representatives of workers.

Consideration has been given to the recommendations made at the public hearing, to data on the returns, costs, and profits of producing sugarcane obtained by field survey in a prior year and recast to reflect prospective conditions for the 1963 crop, and to other pertinent factors. Analysis of these data indicate that the basic minimum wage rates established in this determination are fair and reasonable and are within the producer's ability to pay at raw prices within the range of the price objective of the Act. Recently prices have risen above that level by more than 2 cents per pound. Under these circumstances it is desirable and reasonable that harvest workers also share in the high level of sugar prices unless adverse harvest weather seriously curtails production. Accordingly, provision is made for a bonus payment of one and one-half cents per hour for harvest workers for each one-tenth of a cent per pound by which the average price of raw sugar during the sugarcane pricing period exceeds the average price per pound for raw cane sugar for the three-year period, 1957-1959, adjusted as provided in this determination.

The bonus will become effective simultaneously with the increase in the basic minimum hourly rates applicable to harvest work. The bonus payment is not applicable to work performed on a piecework basis.

The production of sugarcane in Louisiana has been a profitable operation during recent years due largely to favorable yields of sugarcane and sugar, increases in raw sugar and molasses prices, and improvements in production practices which have resulted in greater labor productivity. Producers realized favorable profits from the 1960, 1961, and 1962 crops, and present prospects indicate another record crop in 1963. In view of current prospects for the 1963 crop and the trends in labor productivity gains during recent years, the increased wage rates of this determination are deemed equitable.

The increase of 15 cents per hour results in minimum wage rates ranging from 85 cents per hour for unskilled workers to $1.05 per hour for operators of mechanical loading or harvesting equipment. The increase in minimum rates for all classes of workers averages approximately 18 percent as compared to the rates which were effective under the prior determination. The increase of 25 cents per ton in piecework rates results in about the same percentage increase as the increase in hourly rates. However, since a very small percentage of the crop is cut by hand the increase in piecework rates will have little effect on total labor costs.

Consideration has also been given to the other recommendations made at the hearing but except as reflected in this determination such recommendations have not been adopted.

This determination is issued on a continuing basis and will be effective until amended, superseded or terminated. The Department will keep the wage situation under review and will conduct such investigations and hold such hearings as may be necessary.

Accordingly, I hereby find and conclude that the foregoing wage determination will effectuate the wage

AMENDMENT TO WAGE DETERMINATION FOR FIELD WORKERS

TITLE 7—AGRICULTURE
CHAPTER VIII—AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE (SUGAR), DEPARTMENT OF AGRICULTURE
SUBCHAPTER H — DETERMINATION OF WAGE RATES
(Sugar Determination 864.10, Amendment 1)
PART 864—WAGES: SUGARCANE: LOUISIANA

Pursuant to the provisions of Section 301(c)(1) of the Sugar Act of 1948, as amended (herein referred to as "act"), paragraph (a)(1)(iii) and (a)(1)(iv) of Section 864.10 of Chapter VIII of Title 7 of the Code of Federal Regulations (28 F.R. 11257), published October 22, 1963, is amended to read as follows:

(iii) *Bonus payment for work performed on a time basis.* The rates per hour under subdivision (i) of this subparagraph for harvest work shall be increased in the amounts per hour hereinafter stated for each full one-tenth cent per pound by which the season's average price of raw cane sugar as defined in S.D. 874.16 (28 F.R. 11049) exceeds 6.70 cents per pound:

	Cents Per Hour
Operators of mechanical loading or harvesting equipment	1.7
Tractor drivers, truck drivers, and harvester bottom blade operators	1.5
Loaders, spotters, ropemen, grabmen, and teamsters	1.5
Cutters, toppers, strippers, scrappers behind loaders, cutters and loaders, pilers, and hoist operators	1.3
All other harvesting workers	1.3

(For producers who market sugarcane on a weekly average price basis, the simple average of the weekly average prices for raw sugar for the weeks in which such producers' sugarcane was marketed shall be used instead of the season's average price.)

Provided, That: (1) The hourly rates for harvest workers, including bonuses shall not exceed the rates shown below:

	Per Hour
Operators of mechanical loading or harvesting equipment	$1.45
Tractor drivers, truck drivers, and harvester bottom blade operators	$1.35
Loaders, spotters, ropemen, grabmen, and teamsters	$1.30
Cutters, toppers, strippers, scrappers behind loaders, cutters and loaders, pilers, and hoist operators	$1.20
All other harvesting workers	$1.15

(2) The bonus payment shall not apply to any producer whose 1963 crop is so substantially damaged by natural disaster or climatic conditions that the production of sugar per acre from his farm is less than 90 percent of the previous 5-year average, (or the average of the actual number of years of production on the farm, if less than 5-years).

(3) The amount of the bonus payment may be decreased by the ratio that the total tonnage on a farm of salvage sugarcane, frozen sugarcane to which acidity deductions have been applied, or frozen sugarcane which has been processed on a toll basis, bears to the total tonnage of all sugarcane harvested on the farm.

(4) The bonus payment shall not apply to any worker who has not been employed by a producer for a minimum of 54 hours during the harvest of the 1963 crop.

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provisions of the Sugar Act of 1948, as amended. (Sec. 403, 61 Stat. 932; 7 U.S.C. 1153. Interprets or applies Sec. 301, 61 Stat. 929, as amended; 7 U.S.C. 1132, Act of Congress approved July 13, 1962.)

Signed at Washington, D. C. on:

/s/ Charles S. Murphy,
on October 17, 1963

Filed with Federal Register on October 18, 1963

(iv) *Other piecework rates.* For any piecework performed on a unit basis for which a rate is not specified in subdivision (i) of this subparagraph, the rate shall be as agreed upon between the producer and worker: *Provided,* That the hourly rate of earnings of each worker employed on piecework during each pay period (such pay period not to be in excess of two weeks), shall average for the time worked at piecework rates during such pay period not less than the applicable hourly rate prescribed in subdivisions (i), (ii), and (iii) of this subparagraph.

Effective Date. The provisions of this amendment shall become effective on the date of filing for public inspection in the Office of the Federal Register.

Statement of Bases and Considerations

The wage determination for persons employed on sugarcane farms in Louisiana, issued on October 18, 1963, included a provision whereby harvest workers would receive a bonus of 1.5 cents per hour for each full one-tenth cent per pound by which the season's average price for raw cane sugar as defined in S.D. 874.16, exceeds the average per pound for raw cane sugar for the three-year period, 1957-59, as adjusted by the relationship of the average parity indexes for the five-month period, October 1963 through February 1964, to the average parity indexes for the three-year period, 1957-59. This provision would not be effective if the 1963 crop was so substantially damaged by weather that the total outturn of sugar from the crop was less than 500,000 tons.

Following the issuance of the determination, the Department has continued to study the situation and in order to minimize certain inequities in the bonus provisions has concluded that modification is needed to make that provision more equitable to individual producers and individual workers.

The hourly rate increase of 1.5 cents per hour for all classes of workers has been modified so that the more highly skilled worker will receive a larger hourly increase than will the less skilled workers. This change preserves the proportional relationship among wages for all workers regardless of the level of bonus paid. These increases will range from 1.7 cents per hour for operators of loading or harvesting equipment to 1.3 cents per hour for the two lower classifications of workers. The increase of 1.5 cents per hour is unchanged for the two medium classes of workers which include drivers of tractor and trucks, loaders, spotters, ropemen and similar workers. This modification gives workers as a group about the same share as they would have received under the original provision of any price increase up to a total price for raw sugar of about 9 cents per pound.

This amendment also provides that the bonus payment does not apply to individual producers whose 1963 crop may be substantially below normal. This is in lieu of the proviso of the determination which made the bonus payment inapplicable if the total 1963 crop of raw sugar production fell below 500,000 tons.

A ceiling also has been placed on the total amount of the hourly wage rate including bonus. This ceiling ranges from $1.45 per hour for the highest skilled workers to $1.15 per hour for the least skilled workers. These rates will be attained if sugar prices average 9.0 cents per pound or higher. Wage rates higher than the ceilings set herein could result in rates higher than those received by more skilled factory workers, and would also exceed wage payments to many other workers in the locality.

This amendment also provides a fixed price of 6.70 cents per pound of raw sugar instead of basing such price on the parity index. This price is approximately the price that would result from application of the parity index formula but has the advantage

of providing to producers and workers an immediately determinable basis with which to compare the season's average price.

Workers who have not been employed on an individual farm for a minimum of 54 hours of the harvest work will not qualify for bonus payments. Workers who are so employed for more than 54 hours qualify for the full period of their employment.

If a producer has agreed to pay higher rates than the prescribed basic minimum rates, the amount of excess payments resulting therefrom may be credited against the bonus payment required by this amendment.

The bonus payment is not applicable to work performed on a piecework basis for which specific rates are prescribed. However, the bonus payment is applicable to the minimum hourly guarantee of earnings to workers employed at agreed upon piecework rates.

This amendment will become effective on the date on which filed for public inspection with the Federal Register. The bonus provision as originally issued under Section 864.10 will be effective from October 18, 1963, until the effective date of this amendment.

Accordingly, I hereby find and conclude that the foregoing wage determination will effectuate the wage provisions of the Sugar Act of 1948, as amended. (Sec. 403, 61 Stat. 932; 7 U.S.C. 1153. Interprets or applies Sec. 301, 61 Stat. 929, as amended; 7 U.S.C. 1132, Act of Congress approved July 13, 1962.)

Signed at Washington, D. C. on:

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IN THE FIELD

(Continued from page 39)

suppliers to determine earliest delivery of components by air freight so that additional machines can be produced for delivery during early December. His production schedule is being revised to allow for maximum time being allotted to produce necessary parts and attachments for machines in the field and to be in position to produce the additional machines if his suppliers can deliver components on time.

J. & L. Engineering Co. strongly recommends that growers give serious consideration to the following seven points pertaining to the operation of their harvesters:

(1) Clean machines frequently and inspect harvesters for proper adjustments of chains, railing tensions, etc.

(2) Adhere to, more than ever before, published maintenance schedules on greasing, oil changes, filter cleaning, chain adjustments, etc. These frequent inspections will detect development of troubles before becoming time costly break-downs.

(3) During muddy conditions give additional assistance to operator to clean mud and trash accumulation from machine, at intervals dictated by conditions.

(4) Alternate when possible between badly lodged cane and cane which can be cut in both directions, in order to keep up with mill quota requirements.

(5) Be extremely cautious when burning fields that equipment is at a safe distance.

(6) If not accustomed to handling downed cane, secure information from manufacturer on what is the best procedure to obtain maximum performance of the machine. Trained operators are available to give additional instructions on operating in downed cane.

(7) Growers owning machines that are equipped to handle downed cane arrange their cutting schedules to obtain maximum use of the equipment in order to assist others who do not have adequate machinery.

The American Sugar Cane League asks that growers remember that the service personnel of both J. & L. and Thomson will be hard pressed to respond to all the demands made of them. Handle all minor repairs yourself if possible. In making calls to the manufacturer for service work be sure that you have the complete and correct details of the difficulty in order that only one trip by the manufacturer's repair crew will be necessary.

It should be noted here that growers' attitude toward the problems of harvesting this badly lodged cane has materially changed since the cane was pushed down on Saturday morning. After the wind and rain stopped and the sunlight appeared everyone in the industry became determined and this additional burden and expense will be nothing more than history on January 1, 1964. The crop will be saved and barring a disastrous freeze this crop will be recorded as the largest Louisiana cane crop to date.

Save this picture

It'll help you remember the problem you had before you started using Dow herbicides. Not that our weed and grass killers are perfect, mind you. It's just that they beat whatever is second best by a mile. For example, Dowpon® grass killer controls Johnson and Bermuda grass, cattails and phragmites from tops to roots. Kuron® herbicide kills wild lettuce, chicory, nightshade and other cane field weeds with a vengeance. Dow Sodium TCA 95% grass killer and Formula 40® weed killer are also proved specialists of the Dow herbicide team. See your Dow supplier and start spraying away cane field weeds and grasses with the *complete* Dow herbicide team. The Dow Chemical Company, Agricultural & Industrial Bioproducts Sales, Midland, Michigan.

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THE SUGAR BULLETIN

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE

SUGAR BULLETIN

414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

LOUISIANA STATE UNIVERSITY LIBRARY

by A. W. Dykers

Much Better

It is a great satisfaction to report hat our friend, T. M. Barker, immediate past President of the eague, who suffered a heart attack bout a month ago, is recuperating t his home in Lockport and, we sinerely hope, will soon be his old self gain.

Mr. Munson Honored

Mr. J. J. Munson, President and Chairman of the Board of the South Coast Corporation, has been honored y the Executive Committee of the merican Sugar Cane League. The Committee voted unanimously at its neeting in July of this year to make Mr. Munson an Honorary Life Memer of the American Sugar Cane League and, on November 28th, he vas presented with an appropriately nscribed gold card as a memento of he happy occasion.

We print below the remarks by President Andrew P. Gay as he presented the card to Mr. Munson.

"Today it is a great pleasure for ne, on behalf of our Executive Committee and the entire membership f the American Sugar Cane League, o present a Life Membership in he American Sugar Cane League to ur distinguished friend and colleague, Joseph Jones Munson.

"J. J. Munson is truly one of the Louisiana sugar industry's distinguished sons. He was educated in Louisiana schools and is a graduate f Louisiana State University with Bachelor of Science degree and a legree in Mechanical Engineering. He is connected with many successful Louisiana business enterprises. He has invented and holds patents on a cane harvester, a cane loader, mill journal bearings, a crystalizer, an hydraulic accumulator, a vacuum pan, a continuous centrefuge, a sugar cane cleaner, a clarifier, a syrup process, mill roll groving, and a turnplate for sugar cane mills.

"His early career includes service in the Puerto Rican and Cuban sugar industries. Following this he served as Professor of Mechanical Engineering and Professor of Sugar Engineering at Louisiana State University.

"His big job at present is being the Chairman of the Board, and the President, of the South Coast Corporation.

"In reviewing Mr. Munson's career with the American Sugar Cane League we find that in 1942 he was elected to our Executive Committee. The next year he was elected 3rd Vice-President. In 1945 he was elected 2nd Vice-President, in 1947, 1st Vice-President, and on September 29, 1949, he was elected President of the League.

"After serving for two years as our leader, Mr. Munson returned to his status as a member of this Executive Committee. He has continued, and is continuing, to give us the benefit of his astute judgment in our mutual efforts to keep the Louisiana sugar industry moving forward. Right now our good friend is the Secretary of the League, having been unanimously elected to that

(Continued on page 58)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The Harvest Of Lodged Cane Continues

It has been more than two weeks since heavy rainfall and strong winds pushed many acres of Louisiana sugar cane to the ground. The shock of this downed cane is over, but the burden of picking up badly downed cane is still with the industry. In general it is now taking both more time and money to harvest a ton of cane than before the storm.

On the bright side of this picture is the growers' attitude toward this problem. The determination to harvest this downed cane mechanically has been and is today very strong. Much of the downed cane is being cut with the mechanical harvester. Many growers, however, are using some hand cutters to help make the daily mill quota. The hourly capacity of the mechanical harvester is greatly reduced in badly lodged cane. Growers who normally use contact mechanical harvesters have had to make use of more hand cutters than growers who own harvesters.

Of interest on harvester capacity is the work being done on night time harvest of cane. At least three plantations are operating harvesters at night. The reports on this work are very encouraging. A report from a representative of South Coast Corporation indicated that one harvester while operating both day and night is doing the work of two harvesters. Though this may not appear desirable to some, the important thing now is to save this crop. The two big questions are; what will the weather be in the future; and what can be done to harvest enough cane for the mill.

A report from Mr. Marcel Mitchie of Thomson Machinery Company shows that two lights forward and one light to the rear can be installed on most harvesters for less than forty dollars.

Both J. & L. Engineering Company and Thomson Machinery Company are doing everything possible to respond to all service calls. Both companies have made some modifications on the pickup attachments to assist in the handling of downed cane. The changes already made have been of help. The use of larger sprockets and the installation of idlers to narrow the space on the pickup attachment to make the pickup chain comb the row better have assisted in picking up cane lodged with the row. It is hoped that out of this unfortunate situation will come an idea that may make the handling of down cane better not only for this year but for the future.

A report just received from Mr. Larry Lampo of J. & L. Engineering Company shows that J. & L. Engineering Company is now contacting growers who plan to complete their harvest early with the idea of assisting other growers in the area as well as in other areas to lease these idle harvesters. Mr. Lampo said that J. & L. Engineering Company will make arrangements between growers for this equipment and make available their trailers for transferring harvesters from one area to another as a service to the industry with no charge to the grower. Mr. Lampo also indicated that he is also planning to make arrangement for the outright sale of harvesters between growers.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Government Controls?

Higher Cane And Beet Quotas Proposed

Secretary of Agriculture Orville Freeman has announced that he will recommend legislation to increase the marketing quotas of Mainland Cane and beet sugar in 1964 by as much as 500,000 tons.

"At the present time both cane and beet growers in the continental United States are harvesting all-time record crops" Secretary Freeman said. Mainland Cane production is expected to be 40% above last year's levels and beet production will probably be 20% above all previous record crops. When it became clear that world supplies would be tight all acreage restrictions were removed from domestic cane and beet growers for 1963 and 1964.

"Without the proposed new legislation, the U. S. Government would be in the anomalous position of not being able to fully utilize domestically produced sugar, while being forced to bid to an unnecessary degree in the world market for sugar at relatively high prices—thus contributing to upward pressures on those prices" the Secretary said. The legislation would apply only to the year 1964 and would not prejudice the Administration's position on the foreign sections of the Sugar Act which will expire in 1964 and which must be reviewed by Congress next year.

Representative Harold Cooley, Chairman of the House Committee on Agriculture, which handles sugar legislation, said his committee would not consider any specific changes in the Sugar Act before next year when the foreign quota provisions of the Act expire.

Tariff On Sugar May Be Reduced

The Trade Expansion Act of 1962 authorizes the President to reduce by 50% the duty on virtually all articles imported into the United States. In addition, in those cases where existing duties are 5% or less of the value of the articles as of July 1, 1962, the President can completely eliminate such duties.

Pursuant to the provisions of the law, the President on October 22, 1963, listed those commodities on which the granting of tariff concessions would be considered at the forthcoming General Agreement on Tariff and Trade (GATT). Among those commodities on which a tariff reduction of 50% may be negotiated is sugar in its various forms. Inasmuch as the tariff on sugar already has been reduced in several steps from $2.50 a pound to 0.625 cent a further reduction to 0.3125 cent could be negotiated, and on blackstrap molasses the duty could be eliminated completely.

Negotiations under GATT are expected to get under way early in 1964. The U. S. Tariff Commission and the Office of the Special Representative for Trade Negotiations have both scheduled hearings to begin on December 2, 1963.

The domestic sugar industry should consider its position under these possibilities. At present, because of the abnormally high sugar prices reduc-

(Continued on page 58)

EFFECTS OF SEVERE FREEZING ON QUALITY OF MILL CANE

By J. E. Irvine, Plant Physiologist, and L. G. Davidson, Research Agronomist, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture

Effects of freezing temperatures on the quality of mill cane in Louisiana were described in previous papers (1, 2, 3, 5, 6). Relatively light freezes (26-32°F) had no significant depressing effect on Brix and sucrose(3). Freezes of greater severity (22-25°) caused measurable deterioration in juice quality in 6 to 16 days(2, 6). Reports indicating the extent of the damage and rate of deterioration following temperatures below 20° are not available.

After the severe freezes of the 1961-62 and 1962-63 harvest seasons a series of experiments were begun to determine the amount of freeze damage and the rate of deterioration. Field observations of damage were made by splitting canes and recording the amount of frozen tissue. Determinations of juice quality following freezing were made on hand-stripped plant cane grown at the U. S. Sugarcane Field Station, Houma, La. Samples taken the day of freezing were used as checks. Three to five 20-stalk samples were harvested periodically to determine the rate of deterioration. Analyses of crusher juice included determination of Brix, sucrose, purity, pH, and titrable acidity.

1961-62 Harvest Season

Three periods of freezing temperature occurred during the harvest season of 1961-62. The first occurred on December 25, 1961 when temperatures down to 28° F. were recorded. This was sufficient cold to kill the terminal buds of all varieties in the test but did not damage the remainder of the cane stalk. On December 29, a minimum of 24° was recorded and cane was frozen 1 to 12 inches below the terminal bud. The variety N. Co. 310 showed the least and Co. 281 the most physical damage. The third freezing period began on January 9, 1962, and on January 11 a minimum of 12° was recorded. There were 64 continuous hours below 32°. Standing cane of all varieties was completely frozen and rapid deterioration followed. The results of analyses of crusher juice (table 1) indicate the rate of deterioration of juice in 11 varieties following the freeze of December 29. One commercial variety (N. Co. 310) and 4 varieties that have not been released in Louisiana were found to have exceptionally good keeping qualities. The variety C. P. 47-193 showed the most rapid deterioration throughout the test.

1962-63 Harvest Season

On December 12, 1962, a minimum temperature of 22° was recorded followed by an unprecedented low of 14° on December 13. Temperatures remained below freezing for 15 hours on December 12 and for 22 hours on December 13. The record low temperature lasted for approximately 3 hours.

An examination of stalk tissue on December 12 showed that up to 20 inches of tissue below the terminal bud had been damaged. Varieties N. Co. 310 and C. P. 44-101 showed the least damage and varieties C. P. 36-105 and C. P. 44-155 the most. An extensive survey of the sugar belt following the low temperatures on December 13 showed that cane stalks were split and that stalk tissue was frozen to ground level(4). No variety of standing cane at any location was found with even a trace of undamaged tissue.

The results in table 2 reflect the rate of deterioration of the varieties following a splitting freeze. The amount of frozen tissue, usually important in determining the keeping quality of freeze-injured mill cane, can be eliminated as a major influence in this test. Rapid deterioration of cane quality occurred in a short

Table 1. Effects of freezing on juice quality of 11 varieties of sugarcane during the harvest season of 1961-62 at the U. S. Sugarcane Field Station, Houma, La.

Variety	Time after 24°F. freeze	Time after 12°F. freeze	Crusher-juice analysis Brix	Sucrose	Purity	pH	Titrable acidity
	days	days	°	%	%		
Co. 281	0	-	16.78	15.02	89.51	5.35	2.4
	10	-	16.49	14.38	87.20	5.20	2.5
	17	3	16.10	13.10	81.37	5.30	3.3
N.Co. 310	0	-	17.42	14.83	85.13	5.30	2.8
	10	-	18.21	15.66	85.99	5.25	2.6
	17	3	17.72	14.70	82.96	5.60	2.8
	20	6	16.97	12.31	72.54	4.45	5.1
C.P. 36-105	0	-	17.29	14.58	84.32	5.30	2.8
	10	-	17.04	13.93	81.74	5.20	2.8
	17	3	16.63	13.03	78.35	5.50	3.1
	20	6	16.50	10.18	61.70	4.20	5.9
Cl. 41-223	0	-	18.19	16.19	89.00	5.35	2.3
	17	3	17.81	15.67	87.98	5.40	2.9
C.P. 44-101 1/	0	-	17.49	15.07	86.16	5.35	2.9
	10	-	17.28	14.61	84.54	5.20	2.9
	17	3	17.12	14.14	82.59	5.35	3.5
	20	6	16.71	11.60	69.42	4.30	4.9
C.P. 46-115	0	-	18.40	16.28	88.47	5.30	3.1
	17	3	17.64	15.26	86.50	5.40	3.3
Cl. 47-83	0	-	18.47	16.21	87.76	5.35	2.4
	17	3	19.52	17.27	83.38	5.20	2.5
C.P. 47-193	0	-	19.02	17.03	89.54	5.40	2.5
	4	-	18.36	15.97	86.98	5.35	2.6
	11	-	17.73	15.63	88.15	5.30	3.3
	18	4	18.00	13.37	74.28	4.75	7.0
C.P. 52-68	0	-	17.44	14.82	84.97	5.30	3.0
	10	-	17.19	14.64	85.16	5.15	3.0
	17	3	17.51	14.00	79.95	5.25	3.4
	20	6	17.03	9.45	55.49	4.10	7.3

period. Brix, sucrose, and purity had dropped appreciably in samples taken 2 days after freezing and continued to drop for the duration of the test. Titrable acidity rose and pH fell at a rapid rate. No changes were observed in extraction or stalk weight.

Cane cut with normal topping fell below acceptable standards 7 to 9 days after freezing. Cane topped 3 feet below normal was acceptable 7 days after freezing, and cane of N. Co. 310 topped 3 feet below normal was acceptable 9 days after freezing. Cane cut and heap-rowed kept as well as standing cane from December 14 to December 17. Extensive studies

(Continued on next page)

Table 1. (Continued)

Variety	Time after 24°F. freeze	Time after 12°F. freeze	Crusher-juice analysis Brix	Sucrose	Purity	pH	Titrable acidity
	days	days	°	%	%		
C.P. 55-30	0	-	17.86	14.97	83.81	5.30	2.2
	10	-	17.13	13.96	81.49	5.20	2.3
	17	3	16.81	12.85	76.44	5.40	2.2
	20	6	16.77	9.77	58.26	4.15	5.9
C.P. 57-113	0	-	17.55	14.43	82.22	5.40	2.6
	17	3	17.57	14.65	83.38	5.50	3.0

1/ C. P. 44-101 samples were taken from a partially exposed row and may have experienced greater temperature extremes.

2/ C. P. 47-193 samples were taken from different area on the station.

on the deterioration of frozen heap-rowed cane were not made since storing cane in the heap-row prevents retopping for higher quality.

Discussion

Damage following a freeze has been estimated in the field by observations of the number of lateral buds killed. Lauritzen et al.(5, 6) and Coleman (3) reported a correlation between keeping quality and the number of lateral buds damaged. However, all lateral buds of some varieties may be killed by 22° and there is no further guide to damage made at lower temperatures. Recent work(7) indicated that varieties may show differences in cold tolerance of lateral buds which are not related to the cold tolerance of the stalk tissue. Germination tests indicated that determination of bud viability by discoloration may not be reliable. The observations made during the past 2 harvest seasons show that splitting the stalk and noting the amount of frozen tissue is a more reliable field guide to the potential keeping quality of frozen mill cane.

The data from the last 2 harvest seasons indicate that 2 factors determine the resistance of mill cane to damage by freezing. One is the resistance of the stalk tissue to freezing and the other is the resistance of the juice to deterioration following freezing. The data also indicate that varietal differences in keeping quality may be detected following complete freezing.

Completely frozen cane deteriorates as soon as 2 days after freezing while cane damaged by a moderate freeze shows detectable changes 6 to 16 days later. Completely frozen cane may be below acceptable standards less than 2 weeks after freezing whereas partially frozen cane may last a month or longer.

The data indicate that lower topping, commonly practiced in harvesting partially frozen cane, may also be used to increase the quality of completely frozen cane.

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Table 2. Effect of freezing on juice quality of 5 varieties of sugarcane during the harvest season of 1962 at the U. S. Sugarcane Field Station, Houma, La.

Variety	Time after 14°F. freeze	Topping	Crusher-juice analysis Brix	Sucrose	Purity	pH	Titrable acidity
	days		°	%	%		
N. Co. 310	0	Normal	17.78	15.03	84.53	5.10 1/	2.71 1/
	2	Normal	16.89	13.54	80.17	5.25 1/	3.61 1/
	5	Normal	16.12	13.11	81.33	5.40	2.61
	6	Normal	15.68	12.53	79.91	5.30	3.11
	7	Normal	15.70	12.76	81.27	5.00	3.67
	9	Normal	15.05	11.47	76.21	4.35	6.50
	7	3 feet	16.55	14.54	87.85	5.30	2.95
	9	3 feet	15.72	13.69	87.09	4.95	4.42
C.P. 55-30	0	Normal	17.76	14.11	79.45	5.20 1/	2.57 1/
	2	Normal	17.77	13.50	75.97	5.20 1/	2.74 1/
	5	Normal	17.32	13.83	79.85	5.45	2.59
	6	Normal	16.81	12.83	76.32	5.25	3.37
	7	Normal	16.37	12.91	78.86	5.10	3.87
	9	Normal	16.21	11.87	73.23	4.25	6.51
	7	3 feet	17.12	14.45	84.40	5.20	3.17
	9	3 feet	16.36	13.01	79.52	4.40	5.44
C.P. 52-68	0	Normal	17.39	14.42	82.92	5.25 1/	3.36 1/
	2	Normal	17.11	13.72	80.19	5.15 1/	4.03 1/
	5	Normal	16.22	13.42	82.74	5.35	3.18
	6	Normal	16.21	12.72	78.47	5.30	3.68
	7	Normal	15.71	12.62	80.33	4.95	4.71
	9	Normal	15.61	11.60	74.31	4.50	6.61
	7	3 feet	16.39	13.91	84.87	5.15	3.82
	9	3 feet	15.94	13.25	83.12	4.85	4.79
C.P. 44-101	0	Normal	17.53	14.28	81.48	5.25 1/	3.77 1/
	2	Normal	16.66	12.77	76.65	5.15 1/	4.21 1/
	5	Normal	15.36	12.14	79.04	5.45	2.76
	6	Normal	15.06	11.46	76.09	5.35	3.43
	7	Normal	14.94	11.68	78.18	5.15	4.36
	9	Normal	14.62	10.57	72.30	4.35	7.06
	7	3 feet	15.60	13.15	84.29	5.15	3.72
	9	3 feet	15.31	11.55	74.95	4.35	6.39
C.P. 36-105	0	Normal	17.54	14.00	79.82	5.25 1/	3.60 1/
	2	Normal	15.96	11.47	71.87	5.15 1/	4.87 1/
	5	Normal	14.67	10.60	72.26	5.35	3.44
	6	Normal	14.40	10.36	71.65	5.30	3.91
	7	Normal	14.12	10.28	72.80	5.20	4.03
	9	Normal	13.88	9.55	68.80	4.70	6.22
	7	3 feet	14.55	11.26	77.39	5.25	3.82
	9	3 feet	14.49	10.47	72.26	4.50	6.21

1/ Juice samples for December 12 and December 14 were frozen for later analysis for pH and titrable acidity.

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IN WASHINGTON

(Continued from page 53)

tion in tariff on sugar would not be of serious financial concern, but when world supplies of sugar return to normal levels and world prices fall back to former market prices a reduction in the tariff on sugar could be important.

The various domestic cane and beet producing areas have filed a joint statement opposing the proposed reductions.

—o—

UP FRONT

(Continued from page 51)

office at the Annual meeting in 1962.

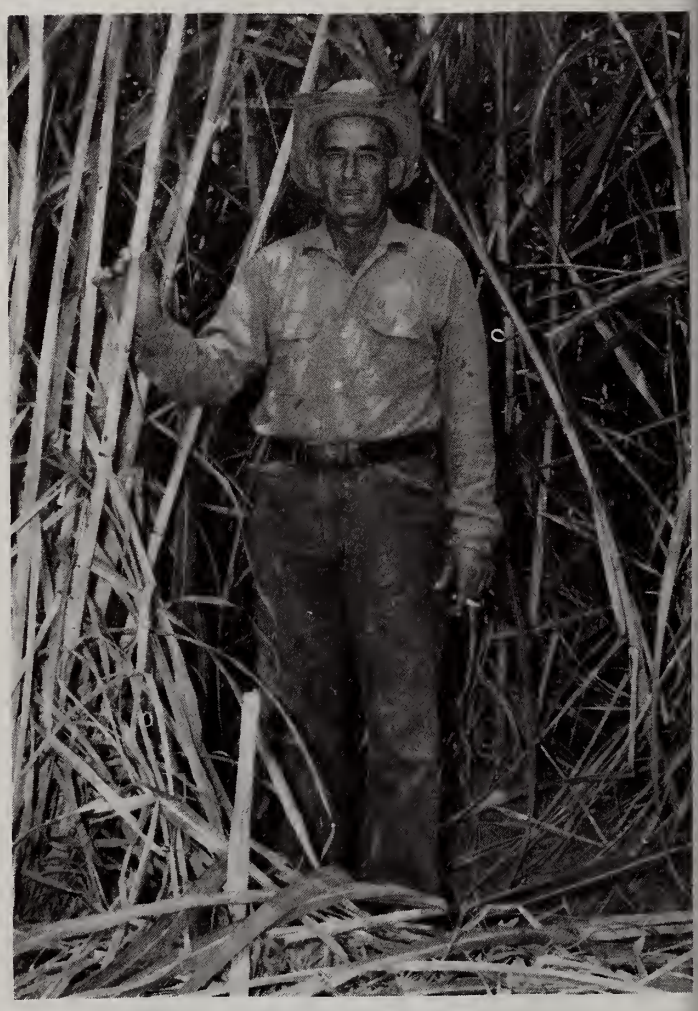
"Mr. Munson, it is with genuine pride and pleasure that I present to you this gold card on which is engraved the following words:

> 'Because of distinguished services rendered by him to the Cane Sugar Industry of the United States, A Life Membership in the American Sugar Cane League of the U.S.A., Inc., has been conferred on Joseph J. Munson by unanimous vote of the Eexcutive Committee of the organization.'

"Also inscribed on the card is the date, July 31, 1963, the day on which the Executive Committee voted the honor. The gold card is signed by Thomas M. Barker, President, and by F. Evans Farwell, Treasurer.

"Again may I say that having the privilege of presenting this Life Membership to you on behalf of the Executive Committee of the American Sugar Cane League is a great pleasure to me. I am sure the entire Louisiana sugar industry joins with us in expressing appreciation to you for your past services and in looking forward to your future accomplishments."

Howard Viator
40.37 tons per acre on 243.6 acres



Thomas Guidry
48.2 tons per acre on 7.2 acres

Fred David
38 tons per acre on 28 acres

Lawrence Melancon
27.4 tons per acre on 145 acres

Matherne Brothers
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THE SUGAR BULLETIN

42 — No. 6 DECEMBER 15, 1963

cial Bulletin of the American Sugar Cane League of the U. S. A.

NOTICE TO LEAGUE MEMBERS

An opportunity to participate in the American Sugar Cane League's Life Insurance Program is again being offered to all League Members.

Many of our fellow members are already enrolled in this program, and we feel that it is important that you give serious thought to availing yourself of this low cost protection.

As previously stated, the League, its officers and its employees will make no money from this insurance. This plan is being offered strictly as a service to our members.

A new plan of dependent coverage for your wife and children is being offered to participating members this year. Further information is included in this issue of *The Sugar Bulletin.*

Andrew P. Gay,
President

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE

SUGAR BULLETIN

414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

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Josiah Ferris, Manager

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

The Old Mule has asked us to convey the Season's Greetings to all of you. He has informed me, through his special ear wigwaging system, that he is getting pretty fed-up with certain folks who keep claiming his load is heavier than it was a couple of weeks ago, when he knows it isn't, but, he says, he is beginning to get accustomed to this type of psychological warfare and is feeling pretty good.

For our part, we would like to point out that the Sugar Market right now, instead of being a trading place that reflects the value of sugar on a supply and demand basis, is some sort of a sounding board with the trade sending out the high note and Washington sending out the low notes and the one, two, and three contract speculators jumping up and down like a rubber ball in a TV sing along. Perhaps after the first of the year conditions will improve. Have a Merry Christmas.

Downed Cane

On page 69 of this issue, we are printing two pictures showing downed cane. The pictures were supplied by our fearless field man, Lloyd L. Lauden.

We are reminded that at the Annual Meeting this year on September 26th, T. M. Barker, who was completing his second year as the President of the League, said "We must face the need for the development of a harvesting machine which will possess the capabilities of harvesting recumbent cane varieties". He predicted at that time that the industry had, at the outside, four years to develop such a machine. Our guess is that the sight of cane flat on the ground all over the sugar belt this year is just what the doctor ordered to speed up the development of such a harvester. It is an ill wind that blows nobody good.

Southern Sugar Forum

The Southern Farm Forum, a yearly event sponsored by the Agricultural Committee of the Chamber of Commerce of the New Orleans Area will be held on the 16th and 17th of January. All interested parties are invited to attend. Miss Brenda Daigle, Rayne, Louisiana has been selected the Queen of the Forum.

The Theme of the Forum will be "Southern Agriculture Moves Forward". The tentative program is as follows:

THURSDAY, JANUARY 16, 1964

Registration between 8:30 and 9:15 A.M. at the Roosevelt Hotel in New Orleans.

9:15 A.M. — Opening of Forum by Walter J. Belsom, Jr., Chairman, Farm Forum Committee

Introductions by the Chairman.

(Continued on page 69)

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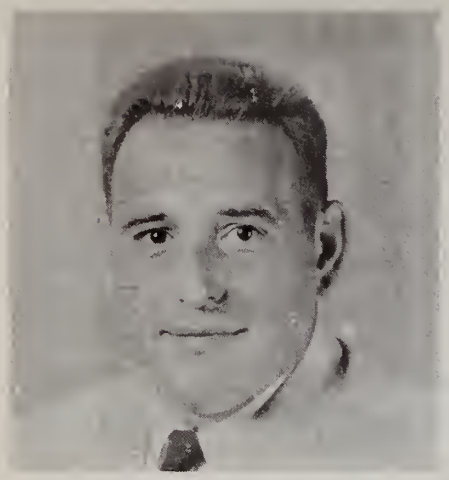

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Florida Sugar Cane Field and Research Tou

Again this year the League is making plans for Louisiana cane growers and processors to visit the Florida sugar cane industry and the U.S.D.A. Canal Point Breeding Station. The tour will begin Sunday morning January 5, 1964 at 8:15 in the morning from the Greyhound Bus Station at 1710 Tulane Avenue and will return to New Orleans Saturday afternoon, January 11, 1964 at about 3 o'clock in the afternoon.

It is known that a number of growers will not be finished with their harvest at this time, but this time does not conflict with other scheduled events in the belt and this is the best time to visit the Canal Point cane breeding Station. It takes time to make arrangements and growers who plan to attend the tour should get in touch with us soon.

St. Joseph Catholic Church is located within one block of the bus station at 1802 Tulane Avenue and Masses are offered at 6 and 7 A.M.

The tour will last one day longer than the League's Florida tours of the past. The extra day will be spent visiting the new developments in the Florida Sugar Industry. There are several new and modern sugar mills being operated for the second time this year.

One of the very interesting features of a trip is the visit to the United States Sugar Corporation. This is by far the largest sugar operation in the State of Florida. This company owns two mills, one with a grinding capacity of about 7500 tons per day located at Clewiston, and the other with a daily grinding capacity of about 6000 tons located at Bryant. The company has more than 41,00 acres in cane. This company has it own research staff. Cane breeding i done on the plantation specifically for United States Sugar Corporatio although other companies also us these varieties. Their major variet is Clewiston 41-223. It is a big barrel sweet, low fiber cane. It was bred b Dr. B. A. Bourne, who heads up th research staff of U. S. Sugar Corpo ration. In addition to Dr. Bourne members of the tour will meet Mr Harry Vaughn, President of U. S Sugar Corporation, and other mem bers of his company.

Arrangements will be made for th group to visit with several grower and processors who only recently en tered the Florida sugar industry After touring the U. S. Sugar Corpo ration's fields and factories last year our group was very ably guide through a large portion of the Florid sugar expansion area by Mr. Rober Apelgren, cane grower and good wil ambassador for the industry. Plan are being made for this same type o tour this year.

In other years and on our las year's tour the United States Suga Corporation, the Okeelanta Refinin Co., the Sugar Cane Growers Cooper ative of Florida, the Glades Count Sugar Growers Cooperative, Talis man, their staffs, and the independ ent growers have gone way out o their way to show Louisiana visitor the entire Florida sugar industry. W have been well received.

The tour will go to as many of th other growers and factories as tim

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sweet Talk

Forty years ago sugar was in a mess" because of over-production nd low prices. Today it is in another mess", this time due to high prices nd uncertainty of supplies.

The United States Department of griculture on several recent occaions was successful in "talking" the rice down by assuring consumers of lentiful supplies, thus slowing down he market. But shortly after each overnment pronouncement buyers nd sellers alike reviewed world prouction statistics and up went the rice again.

Government officials say they reently canvassed our foreign supplirs to ascertain what quantities of ugar they would export to the Unitd States in 1964. Those suppliers, overnment spokesmen said, indicatd that in addition to filling their tatutory quotas would supply subtantially more than the 1.5 million ons of global quota estimated by the overnment to be required in 1964.

But many of those who deal in sugr are openly skeptical of the soundess of the government's conclusions n its effort to influence prices. Some f those skeptics say that after the overnment's quota announcement hey sent out cabled queries which rought from a number of countries replies which cast grave doubt on the reliability of the Secretary of Agriculture's optimistic forecast. They say there is no question that in addition to basic quotas the foreign and non-quota countries will have available sugar for export in excess of the one and a half million tons which the United States may require. But because those countries have the sugar does not mean that they will sell it in the United States at a price considerably less than it could be sold for elsewhere, the skeptics reason.

If you like to speculate, why not hazard a guess as to which is correct; government officials who administer the Sugar Act, or those who throughout the years have made buying and selling sugar their life's work.

The Department of Agriculture's laudable motive, of course, is to lower prices to the consumers, but if world supplies are really tight figures cannot be changed with words and United States sugar consumers will continue to pay high prices until domestic and foreign production is increased.

To Mainland Cane producers: Season's Greetings and best wishes for the most successful year ever, 1964.

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vill allow. Actually, the tour can be rranged so that members who prefer o spend more time in mills will have hat opportunity and those who care o spend more time in the field can lo just that.

The major part of one day will be llotted to a visit to the U.S.D.A. Canal Point Breeding Station. Growers will have the opportunity to see canes used in a cane breeding program. There are many thousand varieties at the Station, some very tiny pencil size canes and some giant size canes. This world collection of canes is one of the most interesting items on the Station. At the Station, the

Continued on page 68)

The Official

ASSOCIATION TERM LIFE INSURANCE PLAN
Sponsored and Recommended by
AMERICAN SUGAR CANE LEAGUE

The amount shown in the Schedule of Insurance below, for your age class, will be paid to the designated beneficiary in case of your death from any cause.

Total and Permanent Disability Provision

If you become totally and permanently disabled for a period of 180 consecutive days and before age 60, your Term Life Insurance will remain in force, without premium payment, as long as you remain so disabled, and the required proofs of disability are furnished.

Conversion

After a member has been insured for at least five years, the Insured may convert this insurance to any form of individual Life or Endowment policy (without a medical examination). The company will issue an amount equal to but not greater than the amount of your Term Life Insurance.

Schedule of—Basic Amounts of Insurance

Age Nearest Birthday	Amount of Insurance	Annual Premium
Under Age 30	$16,000.00	$49.50
Ages 30 through 34	14,500.00	49.50
Ages 35 through 39	11,500.00	49.50
Ages 40 through 44	8,000.00	49.50
Ages 45 through 49	5,000.00	49.50
Ages 50 through 54	3,300.00	49.50
Ages 55 through 59	2,100.00	49.50
Ages 60 through 64	1,400.00	49.50
Ages 65 through 69	1,000.00	49.50

Amount of insurance is based upon age nearest birthday and on renewal date. As you grow older and reach another age bracket, the amount of insurance decreases and the premium remains the same.

OPTIONAL ADDITIONAL BENEFITS

Under a new arrangement being added to our program, any person who is participating in this program may also insure his dependent wife and children for an amount of and at the premium shown in the schedule below.

Dependent Spouse

Age of Member Nearest Birthday	Amount of Insurance	Annual Premium*
Age under 30	$ 4,000.00	$11.50
Ages 30 through 34	3,500.00	11.50
Ages 35 through 39	3,000.00	11.50
Ages 40 through 44	2,250.00	11.50
Ages 45 through 49	1,500.00	11.50
Ages 50 through 54	1,000.00	11.50
Ages 55 through 59	750.00	11.50
Ages 60 through 64	500.00	11.50
Ages 65 through 69	250.00	11.50

Children

Age	Amount of Insurance
Under age 6 months	$ 100.00
Ages 6 months to 23 years	1,000.00 per child

(Total on all children cannot equal more than the amount on the insured spouse.)

* The premium shown for a dependent spouse also includes the cost of children's insurance. There is no additional premium for children's insurance.

Amount of insurance for member and spouse is based upon the age of the member's nearest birthday.

Additional Life Insurance

Members eligible to apply for Basic Life Insurance may apply for double the amount available at their attained age—evidence of insurability is required. Premium for this additional Life Insurance is the same as shown in SCHEDULE OF—BASIC AMOUNTS OF INSURANCE.

Double Indemnity
(Accidental Death Coverage)

Members eligible to apply may also include application for Double Indemnity, such amount to be equal to the Life Insurance benefit as shown in Schedule of Insurance by age classification. Premium per $1,000.00.

Annual ..... $ .80

Special Renewal Features

An individual policy will be issued to each person and will not be terminated by the Company so long as:

1. Premium is paid when due.
2. The Insured is under 70 years of age.
3. The insured is a member of the American Sugar Cane League.
4. The Plan remains in force.

Service Office
MARSH & McLENNAN, INCORPORATED
405 Hibernia Bank Building
New Orleans 12, Louisiana

Please fill in the questionnaire shown below, tear it out and mail it in to the address shown for further information regarding this program.

To: American Sugar Cane League
414 Whitney Building
New Orleans 12, Louisiana

Please send me complete information, without obligation, about the American Sugar Cane League's Life Insurance Program.

Name.....

Address.....

Date of Birth.....

I am interested in Life Insurance for ( ) myself ( ) my family.

DETERMINATION OF COMMERCIALLY RECOVERABLE SUGAR FOR THE 1963 CROP OF LOUISIANA SUGARCANE

Hundredweights of Sugar, Raw Value, Commercially Recoverable Per Net Ton of Sugarcane for Percentages of Sucrose in Normal Juice from 6.0% to 18.0% inclusive

% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane
6.0	0.436	10.1	1.334	14.2	2.079
6.1	0.454	10.2	1.351	14.3	2.097
6.2	0.472	10.3	1.369	14.4	2.116
6.3	0.490	10.4	1.386	14.5	2.134
6.4	0.508	10.5	1.404	14.6	2.153
6.5	0.526	10.6	1.422	14.7	2.171
6.6	0.545	10.7	1.439	14.8	2.190
6.7	0.563	10.8	1.457	14.9	2.208
6.8	0.581	10.9	1.474	15.0	2.227
6.9	0.599	11.0	1.492	15.1	2.246
7.0	0.617	11.1	1.510	15.2	2.264
7.1	0.649	11.2	1.528	15.3	2.283
7.2	0.681	11.3	1.546	15.4	2.301
7.3	0.713	11.4	1.564	15.5	2.320
7.4	0.745	11.5	1.582	15.6	2.339
7.5	0.777	11.6	1.601	15.7	2.357
7.6	0.810	11.7	1.619	15.8	2.376
7.7	0.842	11.8	1.637	15.9	2.394
7.8	0.874	11.9	1.655	16.0	2.413
7.9	0.906	12.0	1.673	16.1	2.432
8.0	0.938	12.1	1.691	16.2	2.450
8.1	0.958	12.2	1.710	16.3	2.469
8.2	0.978	12.3	1.728	16.4	2.487
8.3	0.998	12.4	1.747	16.5	2.506
8.4	1.018	12.5	1.765	16.6	2.525
8.5	1.038	12.6	1.783	16.7	2.543
8.6	1.058	12.7	1.802	16.8	2.562
8.7	1.078	12.8	1.820	16.9	2.580
8.8	1.098	12.9	1.839	17.0	2.599
8.9	1.118	13.0	1.857	17.1	2.618
9.0	1.138	13.1	1.875	17.2	2.636
9.1	1.156	13.2	1.894	17.3	2.655
9.2	1.174	13.3	1.912	17.4	2.674
9.3	1.191	13.4	1.931	17.5	2.692
9.4	1.209	13.5	1.949	17.6	2.711
9.5	1.227	13.6	1.968	17.7	2.730
9.6	1.245	13.7	1.986	17.8	2.749
9.7	1.263	13.8	2.005	17.9	2.767
9.8	1.280	13.9	2.023	18.0	2.786
9.9	1.298	14.0	2.042		
10.0	1.316	14.1	2.060		

IN THE FIELD

(Continued from page 64)

tour will be sub-divided into small groups and each group will be escorted through each of the different types of research by a specialist in that particular field. Each member of the tour will spend some time with each scientist of the Station staff.

Although the tour is designed primarily as a sugar tour there are a few side trips. The tour goes through the famous orange county of the Sunshine State. Oranges will be seen on both sides of the highways for as far as the eye can see and for mile after mile. The tour also makes three very interesting pleasure stops. Silver Springs, Cypress Gardens and Marineland are Florida's most featured attractions. Members of past tours have recommended that these stops be included in future tours.

The cost of the tour which includes transportation, room for six nights, and admission fees for the special pleasure stops is 100 dollars. This is a good bargain. It is going to be a good tour. Growers and processors who are interested should get in touch with the American Sugar Cane League in the very near future. It takes time to make arrangements. Let us hear from you soon.

UP FRONT

(Continued from page 63)

Presiding Officer—O. Dooley Dawson, Chairman, Southwide Farm Forum Advisory Committee, Vice President and Manager of Agriculture Department, Bank of the Southwest, Houston, Texas.

CAN SOUTHERN AGRICULTURE COMPETE WITH OTHER AREAS OF THE UNITED STATES IN THE PRODUCTION OF AGRICULTURAL COMMODITIES?"

COTTON

Dr. Jerry Sayre, Executive Vice President, Staple Cotton Producers, Greenwood, Mississippi.

DAIRY

Troy Kern, Dairy Farmer and First Vice President, American Dairy Association, Cooper, Texas.

SWINE

G. B. Phillips, Animal Industry Specialist, Cooperative Extension Service, Auburn University, Auburn, Alabama.

CORN AND OTHER GRAINS

Kurt Horn, General Manager, Continental Grain Company, New Orleans, Louisiana.

"PESTICIDES AND OTHER AGRICULTURAL CHEMICALS — GOOD

Mr. Henry Adolph, Jr. of Georgia Plantation, South Coast Corporation on Bayou Lafourche, standing about 20 feet inside of an estimated 40 ton per acre field of badly lodged N. Co. 310.

Mr. Adolph standing about 50 feet inside another badly lodged field estimated at 40 tons per acre.

OR BAD FOR SOUTHERN AGRICULTURE"

Dr. L. D. Newsom, Head, Entomology Research, Louisiana State University, Baton Rouge, Louisiana.

Questions from the audience.

12:05 P.M.—Luncheon

The Farm Forum group will attend the luncheon of the Members' Council of the Chamber of Commerce of the New Orleans Area. Raymond D. Sparkman, Chairman of Members' Council will preside.

Awaiting confirmation of speaker.

FRIDAY, JANUARY 17

9:15 A.M.—General Assembly

Presiding Officer—Ralph E. Bennett, Vice Chairman, Farm Forum Committee, District Plant Manager, Southern Bell Telephone & Telegraph Co., New Orleans, Louisiana.

PANEL—**"Youth Takes A Look At Its Future In Southern Agriculture"**

Panel Members:

A successful young farmer—J. T. "Joe" Moss, Mosswood Farm, Youngsville, N. C.

Sponsor — THE PROGRESSIVE FARMER.

A successful young agribusiness man — Ed Winter, Agricultural Chemical Sales Representative, Philips Roxane Division of Thompson - Hayward Chemical Company, New Orleans, Louisiana.

A senior in an agricultural college (farm reared)—Willis Brumfield, Department of Horticulture, Mississippi State University, State College, Mississippi.

Sponsor — Mississippi Chemical Company.

A recent graduate of an agricultural college (city reared)—Rex Bryon Schultz, Federal Land Bank Association, Lake Providence, Louisiana.

Sponsor—Federal Land Bank of New Orleans.

Questions from the audience.

12:15 P.M.—Luncheon

Sponsors: American Sugar Cane League, Louisiana Cattlemen's Association, Louisiana Chemical Association, Louisiana Commercial Agriculturists Association, Louisiana Farm Bureau Federation, Louisiana Sweet Potato Advertising Commission.

Presiding—Walter J. Belsom, Jr., Chairman, Farm Forum Committee, S. Zemurray Company, New Orleans, Louisiana.

Address—"THE LATEST IN AGRICULTURAL RESEARCH"—Dr. B. T. Shaw, Administrator, Agricultural Research Service, USDA, Washington, D. C.

Closing of the Forum.

President Gay presents Gold Life Membership Card to Mr. J. J. Munson.

"Sugar Factory Insurance Specialists"

GILLIS, HULSE and COLCOCK, Inc.

839 Union St. New Orleans, La.

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J. & L. ENGINEERING CO., INC. **Jeanerette, Louisiana**

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It'll help you remember the problem you had before you started using Dow herbicides. Not that our weed and grass killers are perfect, mind you. It's just that they beat whatever is second best by a mile. For example, Dowpon® grass killer controls Johnson and Bermuda grass, cattails and phragmites from tops to roots. Kuron® herbicide kills wild lettuce, chicory, nightshade and other cane field weeds with a vengeance. Dow Sodium TCA 95% grass killer and Formula 40® weed killer are also proved specialists of the Dow herbicide team. See your Dow supplier and start spraying away cane field weeds and grasses with the *complete* Dow herbicide team. The Dow Chemical Company, Agricultural & Industrial Bioproducts Sales, Midland, Michigan.

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THE SUGAR BULLETIN

42 — No. 7 JANUARY 1, 1964

cial Bulletin of the American Sugar Cane League of the U. S. A.

NOTICE TO LEAGUE MEMBERS

We again call your attention to the Life Insurance Plan sponsored and recommended by the League for League members and their families.

Drop us a note, and we will send you more information on this insurance.

Andrew P. Gay,
President

In This Issue

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Freeze Damage

"By Christmas day several severe reezes of long duration had frozen nost of the unharvested Louisiana ugar cane crop to the ground. The irst freeze to do material damage ame on December 15 and by Decem- er 24 most of the belt had received freeze hard enough to rupture the nternal tissues of cane to the ground. Some of the temperatures reported n December 23 and 24 were Reserve 1°F, Edgard 24°F, Labadieville 2°F, Napoleonville 19°F, St. James 2°F, Raceland 21°F, Houma 22°F nd Franklin 24°F.

"Returns from a survey made De- ember 26 showed that there were pproximately 800,000 tons of cane eft to be ground. Most mills stopped rinding operation on Christmas Day. Up until that time very muddy ields caused by heavy rainfall dur- ng December coupled with the badly odged and downed cane caused by trong winds in early November had naterially reduced harvesting rates. Many factories had not received nough cane for two weeks or longer o operate at full daily capacity be- ause of the reduced harvesting rates. t was nearly impossible for most rowers to deliver their daily mill uota. During this period there were nany breakdowns of equipment, and ogging of tractors, harvesters and vagons were very common.

"On December 26 most mills began eceiving enough cane and at the time f this writing, December 30, most nills are grinding at almost full apacity.

"Although the cane is frozen to the ground and the internal tissues are completely ruptured there are only a small number of splits and cracks on the outside of the cane. Examination of fields shows that the cracks are not very deep and they are mostly on border rows and on the ends and more easily found on the northern side. Close examination shows that the cracks have closed rather tightly and in general only canes exposed to the sun show some leaking from the eyes as of the 30th of December.

"Most mill representatives are now reporting little or no trouble making sugar with this frozen cane although at least two reports today, December 30, show that one mill on the Teche and one mill on the Lafourche are beginning to experience some difficulty in the boiling operations. Early reports from these two locations indicate this trouble stems from stale and high topped cane. It is not easy to properly top lodged cane with the mechanical harvester.

"How long this cane will keep is dependent to a large extent on the daily temperatures from now on out. It is hoped that cool dry days will prevail. Most mill respresentatives are optimistic.

"Growers should do everything possible to deliver fresh, properly topped cane. The delivery of a few hundred tons of old stale cane can cause real trouble in a factory. Everything possible should be done to keep the factories operating. Clean, fresh cane may make the difference be-

(Continued on page 86)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Louisiana's 1964 Team

Louisiana's ten-man congressional team in 1964 should be an atomic powerhouse. Always noted for sending outstanding men to the Halls of Congress Louisiana is, and should be, unusually proud of her congressional delegation. Few States, if any, can boast of such an energetic, influential effective group of Senators and Representatives.

Dean of the delegation Allen J. Ellender, has served in the Senate since January 3, 1937; he ranks 4th in seniority. Only Senators Haden, Russell and Byrd are senior to him. He is Chairman of the Agriculture and Forestry Committee; 3rd ranking member of the Appropriations Committee; member of the Joint Committee on Reduction of Non-essential Federal Expenditures.

Russell B. Long was elected to the Senate November 2, 1948. He ranks 16th in seniority in the Senate; he is the number 2 man on the Finance committee which handles sugar legislation as well as tax matters. He is slated to become Chairman of that committee when Senator Harry Byrd retires next year. He ranks number 6 on the Foreign Relations Committee; is a member of the Joint Committee on Reduction of Non-essential Federal Expenditures and a member of the Select Committee on Small Business.

Hale Boggs was elected to the House of Representatives in 1946. He was elected Majority Whip, the number 3 Democrat in the House, in 1962; he ranks number 4 on the powerful Ways and Means Committee; he is Vice Chairman of the Democratic National Committee and is a close personal friend of President Johnson.

F. Edward Hebert was elected to the House of Representatives in 1952. He ranks number 4 on the Armed Services Committee.

Gillis W. Long, elected to the House of Representatives in 1962, is a member of the Interstate and Foreign Commerce Committee.

James H. Morrison was elected to the House of Representatives in 1942. He is the number 2 man on the Post Office and Civil Service Committee and is a member of the Agriculture Committee, which handles sugar legislation in the House.

Otto E. Passman, elected to the House in 1946; ranks number 12 on the powerful 50-man Appropriations Committee.

T. Ashton Thompson, elected to the House in 1952, ranks number 4 on the Merchant Marine and Fisheries Committee and number 7 on the Public Works Committee.

Joe D. Waggonner, Jr., was elected to the House in 1961. He is a member of the House Administration and the Science and Astronautics Committees.

Edwin E. Willis was elected to the House of Representatives in 1948. He ranks number 5 on the Judiciary Committee and is Chairman of the UnAmerican Activities Committee.

Individually every member of the team is a star but what makes the Louisiana lineup unbeatable is teamwork. The team and the individuals who compose it work intelligently and effectively for the interests of the great State they have the honor to represent.

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IN THE FIELD

(Continued from page 75)

tween a factory continuing operations and closing down.

"It should be noted that serious losses have already taken place during the last four weeks of harvest by cane being left in the field where muddy conditions prevented proper scrapping behind the harvester and loader. To add to this is the fact that harvesting costs have gone up tremendously during this period.

"The next crop is also important. Growers should make every possible effort to drain cane fields now. Deep ruts and trash in stubble fields have trapped much water during the last four weeks of harvest throughout the belt. Growers should also check plant cane fields for trapped water. Water logged soils can ruin good stubble and plant cane.

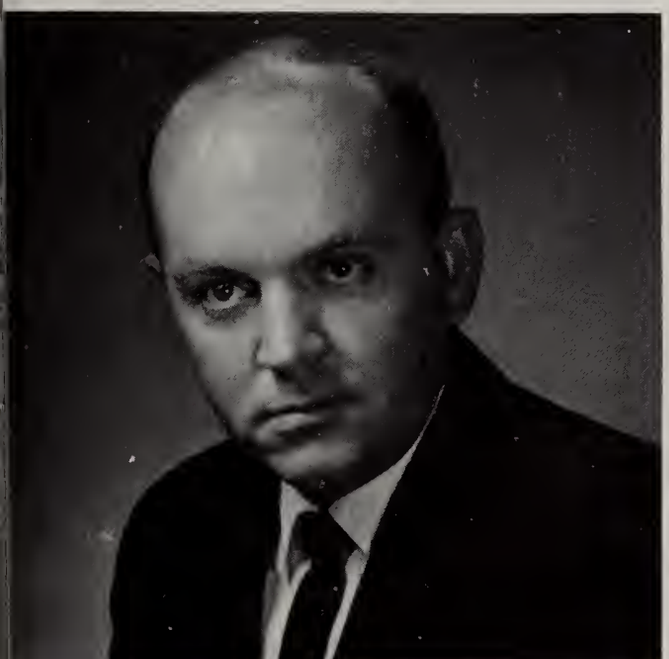
"Dec. 31 — Acidity problems have started. Sugar recoveries per ton of cane are going down, according to 3 reports today."

DR. JAMES W. SANFORD JOINS HOUMA STATION

Dr. James W. Sanford recently joined the staff of the USDA Sugarcane Field Station in Houma. Dr. Sanford is employed as an Entomologist and will be primarily concerned with research on the insecticidal control of the sugarcane borer.

Dr. Sanford was born in Urbana, Illinois and attended Urbana public schools. He served in the U.S. Navy from 1950 to 1954. Upon his discharge from the Navy, he entered the University of Illinois and graduated with a B.S. degree in 1958. He then entered the University of Illinois Graduate School and received his Ph.D. degree in Entomology in 1963. While attending graduate school he was employed by the Economic Entomology section of the Illi-

Daniel and Andrew Gonsulin
37.7 tons per acre on 99.6 acres



ois Natural History Survey. His doc-
oral dissertation concerned the biol-
gy and control of some insect pests
f sweet corn.

Dr. Sanford is 33 years old, single,
nd resides at 1413 W. Main Street
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David and Warren Folse
41.8 tons per acre on 63.6 acres

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in the interests of the Domestic Sugar Cane Industry

THE

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414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Money Machine

At one time or another, you may have dreamed of owning a Money Machine, which at your command would print an endless steam of greenbacks. Just think of all the wonders such a machine could do! It could provide a college education for the children or build that new home you have wanted for so long. That vacation which has been planned for so long would become a reality, and that shiny new automobile would be sitting out front right now.

If you could invent such a machine, no effort would be spared in protecting it from loss or damage. Among other precautions, *you would insure it for its full value.* This is only natural, because you insure your other valuable possessions, such as the home, business and automobile.

This Money Machine could never exist, so what's the point? The ironical thing is that such a machine *does* exist, millions of them do. You, or your Earning Power, are a money machine. To prove it, just stop working for a while and see what happens to your income. Without it, you cannot continue to provide your loved ones with the esssentials of life, much less that new television set. Think what would happen if your money machine were put out of commission permanently. It happens all the time, you know.

Have you insured your Earning Power or life for anything near its real value? If you haven't, aren't you exposing your family to unnecessary risk? This money machine fable is what Life Insurance is all about. Life Insurance creates, with one stroke of the pen, an estate for your family.

The League is making *Life Insurance at wholesale prices* available to you and your family. Why not write the League for information on this Life Insurance program. You won't be sorry.

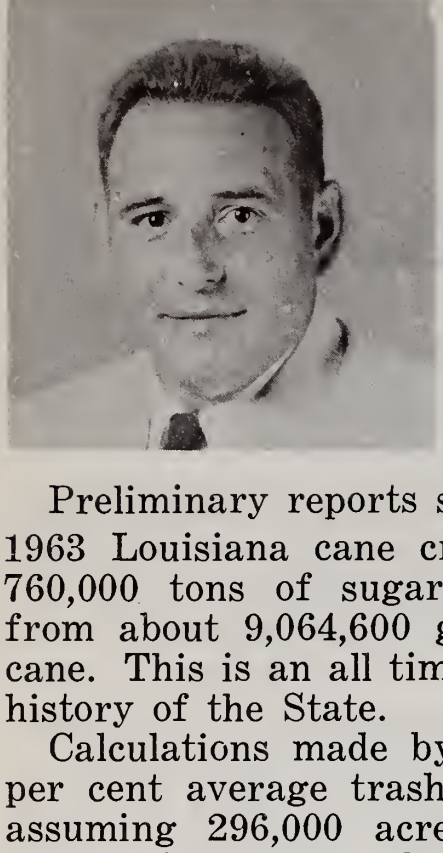
The Old Mule

While on the subject of money machines, The Old Mule hasn't been doing too badly with his task of holding up the price of sugar. The season's average price of raw sugar, delivered New Orleans, through the week ending January 9th is 9.2026 cents a pound, according to the records of the Louisiana Sugar Exchange, and the average price of blackstrap molasses through the week ending January 9th is 19.3655 cents a gallon. The 1962-63 pricing period ends on Thursday, February 27, 1964, which means that seven weeks of pricing remain before the season ends. We are printing a table containing weekly price information on page 98.

Short Courses

Dr. John J. Seip, Superintendent of the Audubon Sugar Factory has proposed short courses at L.S.U. to train persons to be sugar boilers and chemists. Both courses would cover two weeks at the Audubon Sugar School. In addition, Dr. Seip recommends that each person completing

(Continued on page 98)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

1963 Crop a New Record

Preliminary reports show that the 1963 Louisiana cane crop produced 760,000 tons of sugar, raw value, from about 9,064,600 gross tons of cane. This is an all time high in the history of the State.

Calculations made by assuming 7 per cent average trash content and assuming 296,000 acres were harvested for sugar show Louisiana produced about 28.4 net tons of cane per acre for the State average. This is another all time record in the history of cane production in Louisiana.

Although it is very difficult at this early date to get accurate figures on the amount of cane left in the fields after all mills stopped grinding operations, present indications point to figures of more than 3000 acres and more than 100,000 tons of cane. Some of this cane had been cut but not hauled out of the field. Mud, down cane, and freezes plagued the last month or more of harvest. Without the strong will and steady determination of cane growers more cane would have been lost.

A few plantations operated mechanical harvesters at night. This operation was reported as being very successful. More cane was cut by hand this year than in many years. Although many hand cutters could average 6 to 7 tons of cane per day cutting top and bottom only, many field workers could not reach this mark and some were not at all skilled in the job. These cut as little as 2 tons of cane per day and they soon left the job.

Many mills started grinding earlier than usual in 1963 in anticipation of the bumper crop ahead. Both grinding rates and harvesting rates were excellent in all areas of the belt until the winds and rains of November 8 and 9. Then the mud and downed cane materially reduced the speed of the harvest. Costs sky-rocketed. Many reported costs were doubled and some, where cane was down with the row on heavy soil, reported costs even higher, some as high as four times more than usual. Many mills could not get enough cane to operate at full capacity for two weeks or more. Had the cane not been lodged, the freezes would have been of only minor importance to the industry. Most of the crop would have been harvested near Christmas time and only a few mills would have had to grind cane later.

What made this big crop is a question very frequently asked. The answer is not simple or short. In the writer's opinion, aside from the favorable dry weather early in the year which helped make the generally good stands, and the adequate rainfall throughout most of the belt for good growth, the most important factor is that Louisiana growers are doing a much better job of farming today than in the past on every job on the farm. The land is better drained and prepared. Better seed is being used. A better job of planting and covering is being done and

(Continued on page 98)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Miss Sara Reilly to Join League Staff

It is a pleasure to announce that Miss Sara A. Reilly will become a member of our staff February 1.

Miss Reilly, who is well known to all domestic and foreign suppliers of sugar, will retire from the United States Department of Agriculture the 31st of January. She has spent nearly twenty five years assisting in the administration of the United States' sugar program. Her experience in sugar began back in 1934 in the Sugar Section of the Agricultural Adjustment Administration. She served as Administrative Assistant to the Special Representative of the United States Foreign Economic Administration in Havana, Cuba, and in the same capacity in Buenos Aires, Argentina.

Upon her return from Argentina, Miss Reilly was assigned to the Quota and Allotment Division of the Sugar Branch, Production and Marketing Division. Later she became Administrative Assistant to the Director, Sugar Division, Commodity Stabilization Service. She was Secretary to the United States Delegation at the International Sugar Agreement meeting at United Nations in New York City.

For a number of years Miss Reilly was secretary to Larry Myers, former Director, Sugar Policy Staff, U.S.D.A., who retired recently. At present, and until her retirement January 31, she is secretary to Tom Murphy, who succeeded Mr. Myers as Chief of the Sugar Policy Staff.

We are fortunate in obtaining the services of "Sara." Come February 1, and hence forth she will be our "right hand."

Freeman Requests Sugar Legislation

In a letter dated December 20, 1963, Secretary of Agriculture Freeman transmitted to the Speaker of the House of Representatives and to The President pro tem of the Senate the following:

Joint Resolution

"To suspend during the calendar year 1964, restrictions on marketing of domestically produced sugar under the Sugar Act of 1948, as amended.

Resolved by the Senate and House of Representatives of the United States in Congress assembled, That notwithstanding any provisions of the Sugar Act of 1948, as amended, the quantity of sugar produced from sugarbeets or sugarcane grown in the continental United States, and the quantity of raw sugar produced from sugarcane grown in Hawaii, Puerto Rico and the Virgin Islands may be marketed during the calendar year 1964 without regard to quotas, penalties or other restrictions provided for in such Act."

Representative Harold Cooley, Chairman of the House Committee on Agriculture, has said his committee would consider Secretary Freeman's request when the foreign and global quota provisions of the Act are reviewed later this year.

SUGARCANE FERTILIZER EXPERIMENTS IN 1962

By L. G. Davidson, Research Agronomist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

Nine fertilizer experiments were conducted by the Houma Station at various locations in the sugarcane area in 1962. Six of these were rate-of-nitrogen and nitrogen X variety interaction studies superimposed on the outfield variety tests in cooperation with agronomists at the Houma Station (table 1). Cane in the small-plot tests was cut by hand and weighed with the station cane-weighing machine. Cane samples from these tests were milled and analyzed at the Houma Station. In the large-plot experiment at Oaklawn Plantation the cane was machine-cut and weighed on the factory scale, and the cane samples were milled and analyzed at the Oaklawn factory laboratory. Indicated yields of sugar per ton of cane, based on the crusher juice analyses shown in the tables, were calculated by the Winter-Carp-Geerligs formula. Calculated recov-

TABLE 1. Effects of nitrogen on yields and quality of plant, first-, and second-stubble cane on light soil in Louisiana during 1962 1/

Crop and Plantation	Nitrogen per acre	Crusher-juice analysis: Brix	Sucrose	Purity	Cane per acre	Sugar per acre
	pounds	degrees	%	%	tons	pounds
Plant cane:						
Georgia	40	17.29	14.62	84.56	32.92	6,660
	80	17.34	14.72	84.89	32.44	6,645
Oaklawn	40	17.91	15.35	85.71	23.25	5,033
	80	17.98	15.40	85.65	23.92	5,167
First stubble:						
Georgia	80	16.74	13.52	80.76	25.40	4,618
	120	16.85	13.56	80.47	23.99	4,373
Oaklawn	80	19.22	16.82	87.51	22.68	5,349
	120	19.21	16.77	87.30	22.18	5,243
Second stubble:						
Georgia	80	15.27	11.52	75.44	14.08	2,081
	120	15.48	11.72	75.71	14.26	2,138
Oaklawn	80	18.43	15.17	82.31	17.60	3,659
	120	18.15	14.82	81.65	17.55	3,543

1/ Average data from 12 to 16 varieties in agronomy variety test fields. Differences between treatments are not significant.

eries, based on fresh cane, may be somewhat higher than would be obtained by the average factory.

Rate-of-nitrogen Experiments

The effects of various rates of nitrogen on yields of cane and sugar per acre and on juice quality were studied in 2 experiments with plant cane, 3 with first stubble, and 3 with second-stubble.

Table 1 shows the effects of 40 and 80 pounds of nitrogen per acre, using 28 to 32 replications, on plant cane in outfield agronomy variety tests on light soil on Georgia and Oaklawn Plantations. Yields of cane and sugar per acre and juice quality were not significantly affected by the higher nitrogen rate.

Results for the past 6 years show that significant yield increases were obtained from 80 pounds of nitrogen per acre as compared with 40 pounds in about half of the experiments of this type. These previous results are in good agreement with the joint fertilizer recommendations of the U. S. Department of Agriculture and the Louisiana Agriculture Experiment Station which advise the use of 60-80 pounds of nitrogen per acre on plant cane on light soil.

Data for rate-of-nitrogen experiments on first-stubble cane are shown in tables 1 and 2 and for second-stubble cane in tables 1 and 3.

First- and second-stubble tests on light soil on Georgia and Oaklawn Plantations (table 1) showed no significant yield differences from 120 as compared with 80 pounds of nitrogen per acre. Average sucrose data for these 4 experiments showed essentially equal juice quality for cane treated with these 2 rates of nitrogen.

In the first-stubble experiment on Iberia silty clay loam on Oaklawn Plantation (table 2) 170 pounds of nitrogen per acre significantly increased yields of both cane and sugar per acre as compared with the 85

(Continued on next page)

TABLE 2. Effect of fertilizer on yield and quality of C. P. 44-101 first-stubble cane on Iberia silty clay loam, Oaklawn Plantation, Franklin, Louisiana, 1962.

Fertilizer ($N-P_2O_5-K_2O$) per acre	Crusher-juice analysis: Brix	Sucrose	Purity	Cane per acre	Indicated available 96° sugar: Per ton of cane	Per acre
pounds	degrees	%	%	tons	pounds	pounds
85-0-0	18.19	15.47	85.05	25.06	213.6	5,353
85-60-60	18.99	16.64	87.62	25.80	233.3	6,019
85-120-120	18.29	15.87	86.77	27.36	221.4	6,058
170-0-0	18.35	15.75	85.83	27.14	218.5	5,930
170-60-60	19.06	16.65	87.36	28.43	233.1	6,627
170-120-120	18.53	16.08	86.78	29.14	224.4	6,539
L.S.D. .05		.70		2.07		570
L.S.D. .01		.94		2.80		771

Data are averages of 6 plots, each 4 rows wide by the full length of the cut, having an average area of 0.19 acre. Fertilized April 11, 1962; cane harvested December 3, 1962.

pound nitrogen rate. Percent sucrose did not differ significantly for these 2 nitrogen treatments.

Data for the second-stubble test on the Station (table 3) show no significant response to as much as 400 pounds of nitrogen per acre.

A summary of rate-of-nitrogen experiments with stubble cane showed significant yield increases from 170 as compared with 85 pounds of nitrogen per acre in 1 test; no significant yield increases from 120 as compared with 80 pounds of nitrogen per acre in 2 tests; and no significant yield increases from 400 as compared with 200, 100, 50, and 0 nitrogen per acre in 1 test.

Results for the past 6 years show that significant yield increases were obtained from 120 as compared with the 80 pounds of nitrogen in about one fourth of the experiments of this type. These results are in good agreement with the joint fertilizer recommendations of the 2 stations which set the nitrogen requirements of stubble cane at 80 to 120 pounds per acre.

N-P_2O_5-K_2O Experiments

The effects of mixtures as compared with nitrogen alone were studied in 3 experiments (tables 2-4). In an experiment on Oaklawn Planta-

TABLE 3. Effect of fertilizer on yield of C. P. 48-103 and N. Co. 310 as second-stubble cane on made land on the Houma Station, 1962.

Variety and fertilizer (N-P_2O_5-K_2O) per acre			Crusher-juice analysis			Cane per acre	Indicated available 96° sugar	
			Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds			degrees	%	%	tons	pounds	pounds
C.P. 48-103:								
0	0	0	16.60	13.05	78.61	42.07	176.0	7,404
50	0	0	16.55	13.09	79.09	41.86	177.1	7,413
100	0	0	16.61	13.05	78.57	44.89	175.9	7,896
200	0	0	16.28	12.63	77.58	43.94	169.0	7,426
400	0	0	15.89	12.24	77.03	42.75	163.1	6,973
100	50	50	16.68	12.90	77.34	46.17	172.3	7,955
200	150	250	16.38	12.86	78.51	43.98	173.3	7,622
400	400	700	16.29	13.07	80.23	47.38	178.3	8,448
N. Co. 310:								
0	0	0	14.25	10.23	71.79	37.79	127.8	4,830
50	0	0	14.44	10.00	69.25	42.47	121.8	5,173
100	0	0	13.34	9.04	67.77	51.73	108.4	5,608
200	0	0	13.83	9.48	68.55	43.22	114.6	4,953
400	0	0	13.97	9.66	69.15	48.99	117.5	5,756
100	50	50	14.19	10.24	72.16	42.54	128.3	5,458
200	150	250	12.99	8.88	68.36	47.17	107.1	5,052
400	400	700	14.42	10.67	73.99	49.67	136.0	6,755

There were no significant differences in yields of cane or sugar per acre due to the fertilizer treatment. Data are means of 3 plots, each 4 rows wide by 19 feet long. Fertilized April 4, 1962; cane harvested October 30, 1962.

tion (table 2) percent sucrose and yields of sugar per acre were significantly increased both by the 85-60-60 treatment as compared with the 85-0-0 treatment and by the 170-60-60 treatment as compared with the 170-0-0 treatment. Yields of both cane and sugar per acre were significantly increased by the 85-120-120 and 170-120-120 treatments as compared with the 85-0-0 and 170-0-0 treatments, respectively.

The effects of 100, 200, and 400 pounds of nitrogen alone and in complete mixtures on second-stubble cane of 2 varieties were compared in an experiment on light soil on the Houma Station (table 3). Average results showed an increased yield of 444 pounds of sugar per acre for the complete mixtures as compared with nitrogen alone, but this difference was not significant.

Yields of cane per acre were significantly increased in an experiment on Woodlawn Plantation near Houma, La., (table 4) by the use of both the 70-0-60 and the 70-40-60 treatment as compared with 70 pounds of nitrogen alone. The increased yield of sugar per acre resulting from use

(Continued on next page)

TABLE 4. Effect of fertilizer, Versene, and Versenol on yield of N. Co. 310 as plant cane on Mhoon very fine sandy loam on Woodlawn Plantation, Houma, La., 1962.

Fertilizer ($N-P_2O_5-K_2O$) per acre	Crusher-juice analysis			Cane per acre	Indicated available 96° sugar	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	degrees	%	%	tons	pounds	pounds
70-0-0	16.55	13.61	82.24	29.18	184.6	5,387
70-0-0 1/	16.14	13.08	81.04	30.54	176.0	5,375
70-0-0 2/	16.41	13.60	82.88	31.88	185.3	5,907
70-0-0 3/	15.52	12.34	79.51	27.41	164.3	4,503
70-0-60	16.36	13.47	82.33	33.23	182.8	6,074
70-0-60 1/	15.22	12.32	80.95	31.11	165.7	5,155
70-0-60 2/	16.22	13.38	82.49	30.04	181.8	5,461
70-0-60 3/	15.51	12.51	80.66	28.19	167.9	4,733
70-40-60	15.49	12.73	82.18	31.97	172.6	5,518
70-40-60 1/	16.19	13.26	81.90	30.62	179.5	5,496
70-40-60 2/	15.74	12.84	81.58	30.90	173.4	5,358
70-40-60 3/	15.81	12.84	81.21	30.71	173.0	5,313
L.S.D. .05				2.12		723
L.S.D. .01				2.89		N.S.

1/ Versene, 10 lbs. a.i. per acre, in 2 equal applications on the cane in June.

2/ Versene, and 3/ Versenol, 20 lbs. a.i. per acre, in 4 equal applications on the cane (2 in June, 1 in August, 1 in October).

Data are averages of 3 plots, each 3 rows wide by 50 feet long. Fertilized April 16, 1962; cane harvested November 26, 1962.

of the nitrogen-potash treatment was nearly significant. The foliar application of Versenol† at 20 pounds a.i. per acre significantly reduced the yields of cane and sugar per acre as compared with the unsprayed controls; these reductions amounted to 2.7 tons of cane and 800 pounds of sugar, respectively. The sucrose reduction with this treatment amounted to 0.7, but this difference was not significant. Foliar applications of Versene† at 10 and 20 pounds a.i. per acre did not significantly affect yields of cane or sugar per acre and had little effect on sucrose.

Variety X Nitrogen Interaction Experiments

Data showing the relative response to nitrogen of important commercial and promising unreleased varieties were obtained in 7 experiments. No consistent significant interactions have been found in experiments of this type conducted during the past 7 years.

---

* Report to the Contact Committee of the American Sugar Cane League, June 20, 1963.

† Manufactured by the Dow Chemical Co.

IN THE FIELD

(Continued from page 92)

weed control is being practiced generally over the belt. Borer control is much better than in the past; more time and attention is being given to every practice on the farm. Today's grower is a better farmer and it is the writer's opinion that larger crops are on the way in the future.

UP FRONT

(Continued from page 91)

the two week sugar boiler course be given an additional two weeks of training at a refinery by refinery personnel.

The estimated cost, including the general fee, room and meals for the sugar boiler course is $350.00 per student. However, this does not include the cost of the additional two weeks of training at the refinery. The cost of the chemist course has been estimated at $200.00. Dr Seip proposes that both courses be conducted this spring.

Get in touch with either Dr. Seip at L.S.U. or Gilbert J. Durbin, General Manager of the American Sugar Cane League if you are interested in either of the short courses. Mr. Durbin's address is 414 Whitney Building, New Orleans, La. 70130.

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	Average Price		Price Per Ton Standard Sugarcane Freight Area			Molasses All Freight
Week Ended	Sugar	Molasses	(a)	(b)	(c)	Areas
Oct. 10, 1963	8.6800	22.0000	9.233	9.201	9.169	52.800
Oct. 17, 1963	9.1100	22.0000	9.688	9.657	9.625	52.800
Oct. 24, 1963	10.1700	21.9000	10.812	10.780	10.748	52.470
Oct. 31, 1963	10.1900	21.4000	10.833	10.801	10.770	50.820
Nov. 7, 1963	10.1225	20.6250	10.762	10.730	10.698	48.262
Nov. 14, 1963	9.3800	19.7500	9.975	9.943	9.911	45.375
Nov. 21, 1963	9.1300	19.1500	9.710	9.678	9.646	43.395
Nov. 28, 1963	8.6800	18.6667	9.233	9.201	9.169	41.800
Dec. 5, 1963	9.1940	18.3500	9.777	9.746	9.714	40.755
Dec. 12, 1963	8.7500	17.7500	9.307	9.275	9.243	38.775
Dec. 19, 1963	8.3800	17.5500	8.915	8.883	8.851	38.115
Dec. 26, 1963	8.4800	17.5000	9.021	8.989	8.957	37.950
Jan. 2, 1964	9.2800	17.1250	9.869	9.837	9.805	36.712
Jan. 9, 1964	9.2900	17.3500	9.879	9.847	9.816	37.455

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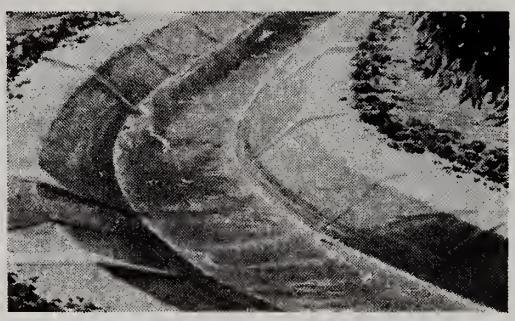

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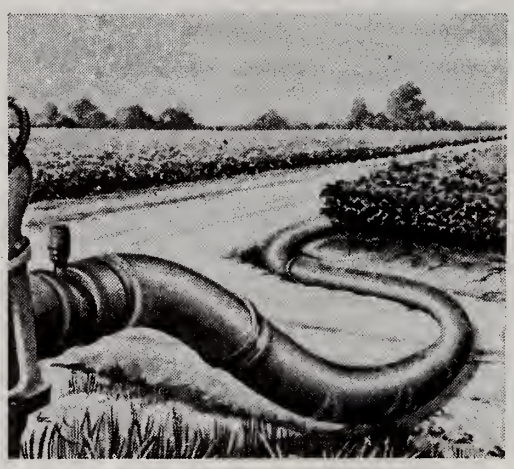

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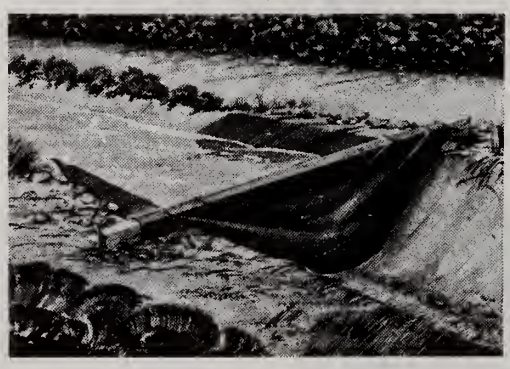

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Edito

Lloyd L. Lauden, Agronomist and Field Representative

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We stand for the encouragement of Home Industries as against Foreign Competition

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

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In our January 15 issue we quoted ıe text of a proposed Joint Resolu- on sent to Congress by Secretary of griculture Freeman requesting au- ıority to suspend marketing quotas ɔr domestically produced sugar dur- ıg the calendar year 1964. The let- ɛr with which Secretary Freeman ransmitted the proposed legislation as follows:

"Washington, D.C.
December 20, 1963

Honorable John W. McCormack
peaker
ouse of Representatives
ear Mr. Speaker:

ransmitted herewith for the con- deration of the Congress is a pro- ɔsed joint resolution to amend the ugar Act of 1948 to permit unlimit- d marketings of sugar by the do- ıestic sugar producing areas dur- ıg the calendar year 1964. Under ıe Sugar Act the United States sug- r market is divided by a quota sys- ɛm among various groups of sup- liers — the domestic beet sugar rea, the mainland cane sugar area, awaii, Puerto Rico, the Virgin Is- ınds, individual foreign countries nd foreign countries as a group hich supply sugar under the global uota.

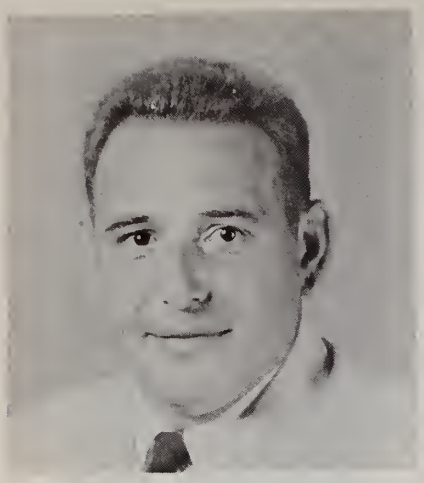
arly this year, when it became clear ıat world supplies of sugar would e tight, all acreage restrictions on omestic producers for this year and ext year were removed. Both beet nd sugarcane producers in the con- nental United States are harvesting ll-time high record crops. Beet sug- r production is expected to be 20 per- cent and mainland cane 40 percent above last year's levels. It is esti- mated that sugar production in the centinental United States from the current crop could be as much as 500,000 tons more than the sum of the mainland beet and cane quotas for 1964.

The world price for raw sugar as of November 26 was 11 cents per pound as compared to 8.10 cents at the end of September. The rapid rise has been attributed primarily to re- ports of disappointing crops in USSR and Poland and to damage to the Cuban crop by Hurricane Flora. The price for raw sugar imported into the United States is substantial- ly below the world price. For in- stance on November 26 it was 3.4 cents lower when adjusted to reflect duty and freight, but still 2.0 cents above the price reference in section 201 of the Act. Our market is sep- arated from the world market be- cause of the large import commit- ments that we have this year.

The proposal to permit our domestic areas to market all available sugar next year would result in lower im- ports of sugar from the world mar- ket and would lessen upward pres- sures on prices which are far above normal.

The Department recommends the adoption of the proposed resolution. To the extent that this resolution reduces imports of sugar into the United States and eventually in- creases the production of domestic sugar, tariff revenue to the Treasury will be reduced by $12.50 per ton of

(Continued on page 108)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Wait—Don't Destroy Stubble Early

Don't destroy or plow out old stubble cane early. Hold on to this acreage until stands are showing throughout the fields.

There are at least three reasons why the decision to or not to destroy stubble intended to be plowed out should be delayed. One of the most important reasons for keeping this stubble until later is to have this acreage available in the event plant cane stands or other stubble fields fail. On many past occasions throughout the belt a 20 or 30 acre field of second or third year stubble has made better stands and more cane per acre than first year stubble or plant cane on the farm. Poor stands in the plant or in the first stubble field usually accounted for the lower yields. It is always good to have enough cane around to be able to pick and choose between fields to be kept. It is much easier to keep old stubble where grass is not an existing problem.

If in the spring the indications are that the price of sugar will again be good in 1964 many growers may then wish that more stubble cane had been kept. Many growers now have fields of third year stubble which yielded 35 tons as second stubble in 1963. These fields could produce good stands and yields in 1964 if grass is not a problem on the farm. Therefore "the price factor" may be another good reason why growers should delay the "plow out."

A third reason for delaying t decision to plow out and one whi could play an important part in t future is the question regardi acreage restrictions for the 1965 ca crop. If spring stands are good some of this cane which was intend for plow-out and indications a either uncertain or strong that r striction will be imposed for the 19 crop, many growers may wish keep some additional acreage. The is a good chance that acreage cane in 1964 will have some bearir on how much cane acreage will allowed for the 1965 crop if restri tions are imposed.

This article is not written for t purpose of influencing all growe to keep as much acreage as possibl but merely to remind growers some of the possibilities.

Very little field work has been do since the end of the harvest. Fiel are still generally muddy in all area Water is still in many of the fiel of the late harvested cane. Mud conditions at harvest time caus deep ruts generally throughout t belt. Every effort should be made clear the field of this water. Th condition is certainly not good f cane. This type of weather can mat rially affect stands. It is hoped th February will be dry.

If wet cold weather continue growers will certainly need additio al acreage from which to pick ar choose between fields to be kep *Keep this stubble cane around* much later, but don't produce ca on fields which would not be in kee ing with good farming practice.

STATEMENT OF EUGENE GRAUGNARD

On Behalf of The American Sugar Cane League, at a Public Session of The U. S. D. A. Farm Resources Research Advisory Committee, Oxford, Mississippi—January 20, 1964

My name is Eugene Graugnard. I
n a grower of sugar cane for sugar
St. James, Louisiana. I appear
ere as a representative of the Amer-
an Sugar Cane League of the
S. A., Inc., and I serve as Chair-
an of that organization's Drainage
d Deep Tillage Committee, a comit-
e which promotes research in the
eld of soil and water conservation
d managment.

The American Sugar Cane League
the U. S. A. is a non-profit organ-
ation, organized and maintained to
omote and protect the welfare of
ouisiana sugar cane farmers and
ocessors. The membership in-
ides sugar cane farmers who pro-
ice more than 95% of the Louisiana
gar cane crop and all of the Louisi-
a sugar cane processors.

We appreciate the opportunity of
pearing before this Committee
hich we understand has the respon-
bility of advising the U. S. Depart-
ent of Argiculture on the subject
soil and water research. With that
derstanding, I propose to discuss
w soil and water research may be
le to help us solve some of our prob-
ms and take advantage of some of
r opportunities.

Sugar cane for sugar is produced
eighteen Louisiana Parishes. Most
it is grown on the alluvial soils of
e Mississppi River Valley, some on
e alluvial soils of the Red River
alley, and some in the Gulf Coastal
ain Area.

We have just completed harvest-
g the largest acreage and tonnage
sugar cane ever produced in Lou-
iana. The acreage of cane now in
e ground for the 1964 crop is even
rger. We expect our Industry's
owth to continue beyond 1964. As
u can imagine, this growth is ac-
mpanied by problems, some of them
volving the treatment and handling of soil and water.

In general, the soil and water research needs with respect to Louisiana sugar cane farms may be grouped under three headings: (1) water, (2) soil, and (3) machinery or equipment. With respect to water, we need research which will show us how to make the maximum and best use of the rainfall we receive, how to make proper disposition of the excess rainfall during the winter and early spring months when cane is in a semi-dormant stage and very susceptible to disease under wet conditions, and how to supplement the rainfall by irrigation during the periods of drought which we have nearly every year during our cane growing season in spite of our high average annual rainfall. With respect to our soil, additional research is needed to determine proper fertility levels and how best to attain such levels, how to improve the physical condition of the soil, and to some extent, how to control soil losses on our land which we have graded or crowned. With respect to machinery, research is needed to develop equipment which will do the most economical job of the work which must be done to solve our water and soil problems.

The type of drainage system presently on Louisiana sugar cane farms is more than a century old. It was devised for hand labor and mule power. Surely, there must be a system better suited to our completely mechanized, modern day sugar industry. Research conducted by Mr. I. L. Saveson, U. S. D. A. engineer, has already shown definite ways of improving the system, but more research is needed. Mr. Saveson developed the practice of crowning or turtle-backing of land which is now in widespread use on Louisiana sugar cane

(Continued on next page)

farms. More recently, he developed the practice of what we call "precision land grading." This practice eliminates most of the ditches and frequently increases the size of sugar cane fields by more than ten percent. There are many advantages to this practice and sugar cane farmers are beginning to adopt the practice although it usually costs in excess of $100 per acre to install the practice.

There is much more information which we should have before we get far along the road of precision land grading. We need research information, for each of our soil types, on the proper distance between ditches and the proper depth, width, shape, length, and grade of each ditch. We would like to see research aimed at an arrangement of our sugar cane fields by soil types. If all soil in one large sugar cane field is of the same soil type, the application of fertilizer, the cultivation, and all other treatments of the field are more precise and the results obtained from all parts of the field are more uniform.

Our 1963 sugar cane crop in Louisiana gave us the best yield per acre we have ever obtained. The extreme drought during February, March, April, and May and the above average rainfall during June, July, and August played a big part in giving us our high cane yields last year. A very thorough statistical study by Dr. W. H. Patrick of the L. S. U. Agronomy Department shows conclusively that a dry spring and high cane yields are very closely correlated. This suggests to us that perhaps we can go even further than we had contemplated in providing adequate and thorough drainage for our sugar cane land. In this connection, we think the subject of subsurface drainage should be investigated.

We have mentioned that the acreage of sugar cane in Louisiana is expanding. This is requiring the clearing of trees from farm crop land and, in many instances, the installation of levees to protect fields against bac water and the installation of pump to pump excess water from the field around which levees have been buil We wish we had more research in formation for the guidance of thos installing new drainage systems o lands now being put into sugar can production.

We have seepage problems in man fields adjoining the Mississippi Riv er. More research might facilitat the proper handling of this problem

We have done a little irrigating o sugar cane on a few farms in Louisi ana, but there are many answers w need before irrigation will be a gen eral practice. We need to know whe to irrigate, how much water to apply how fast to apply the water, an whether to use overhead, surface, o subsurface irrigation; and we nee to know whether irrigation of Louisi ana cane is economically feasible. A times, some of the sources of irriga tion water are brackish. We know very little about the salt tolerance o sugar cane.

Mr. Saveson has done some tillag research. More along this line need to be done. We particulary need t know how to better handle our heav clay "buck-shot" soils. Much of th expansion in Louisiana sugar can industry is taking place on thes heavier soils.

Very little microbiological researc has been done in the Louisiana suga cane area and as far as we have bee able to learn, very little of such re search has been done anywhere i the United States. We believe it i time for more attention to be give to this important area of research

Investigation of chemical mulche on Louisiana sugar cane soils shoul be made. The effect of various chem icals on the texture of soils shoul be determined. Among the multitud of new chemicals developed ever year, we may find one which will im prove soil texture and whose use wil be economically feasible.

We are sure you can get and d

(Continued on page 108)

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get very comprehensive statements regarding soil and water problems, from the Federal and State scientists who work in this field. I, therefore, see no need in my dwelling on this subject any more, but I would like to say something about research facilities.

The American Sugar Cane League has been interested in this field of research for many years. Back in 1930 the organization helped secure a federal appropriation for drainage research on sugar cane lands in the Houma, Louisiana area. That can be considered the beginning of a research project entitled "Soil and Water Management Investigations in the Mississippi Delta Region and Coastal Plain Area," now operated as a joint undertaking of the U.S.D.A. and the Louisiana Agricultural Experiment Station. Through the years the American Sugar Cane League, has followed the work of this project very closely. The committee of the League, which I head, is one of the groups which acts in an advisory capacity in connection with the project. Although the work was limited to the sugar cane area for a number of years, we approved and in fact, encouraged the expansion of the project into other areas of the State.

This research project, headed by Mr. I. L. Saveson, has made a major contribution toward increased yields of sugar cane.

We have been pleased with the project although it has never received adequate financial support. In several instances in the past, the American Sugar Cane League has assisted in getting additional financial support from the State of Louisiana for the project. On occasions, we have assisted in getting support in the form of machinery from machinery manufacturers. We have contributed some of our own money.

We have been trying for several years to obtain federal funds for the establishment of a soil and water research center at Baton Rouge by enlarging the project presently located there. We are familiar with the priority list of all such centers in the nation. The list shows that the Baton Rouge project for fiscal year 1964 is allocated $45,600. The list also includes for the Baton Rouge project a recommendation for future appropriation of $624,000 for construction and an increase of $218,000 in annual operating funds.

This is all well and good, if our turn for these appropriations is reached when Congress considers 1965 fiscal year appropriations. If we must wait another year for the $624,000 appropriation for "construction," we ask that a substantial part of the $218,000 be made available for fiscal year 1965.

The project as it presently exists is sorely under financed. Efficient and effective use of more operating funds can be made right now in the hiring of additional personnel and purchase of additional equipment.

We solicit your support.

———o———

IN WASHINGTON

(Continued from page 103)

sugar and direct Government payments to producers of mainland sugar crops increased by about $15.00 per ton. Thus, if imports are curtailed by 250,000 tons in 1964, tariff revenue would be reduced by $3,125,000 in that year. In future years, if domestic stocks of sugar are replenished by a corresponding quantity, Government payments to domestic producers would be increased by $3,750,000.

On the other hand, the proposed resolution would not only provide additional assurance to sugar consumers against high prices in the period while world stocks are being replenished but would substantially benefit our balanace of payment accounts. A reduction of 250,000 tons in our imports in 1964—calculated on the basis of the domestic c.i.f. price of November 26 — would amount to $42 million. Calculated in line with the price referred to in section 201 of

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the Act, the savings would be $31 million. Furthermore, to the extent that the proposed resolution would lower the price of that sugar which is imported, both sugar consumers and the balance of payment accounts would benefit. Such benefits would be many times the cost referred to in the preceding paragraph.

The Bureau of the Budget advises that there is no objection to the presentation of this proposed joint resolution from the standpoint of the Administration's program.

A similar letter is being sent to The President pro tem of the Senate.

Sincerely yours,
Orville L. Freeman
Secretary"

President Johnson is reported to be including a paragraph or two on the sugar resolution in his special message to Congress on farm legislation expected on Capitol Hill soon.

UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

We are late with this issue of *The Sugar Bulletin*. One of the reasons for this is that our Old Mule pulled up with an acute attack of something-or-other just as we were about to go to press and before we knew it the poor old critter was flat on his backside and acting like an Olympic bobsled on a down hill run. Since January 15th our raw sugar quotation has dropped 125 points, with 90 of the 123 point toboggan taking place during the last three days. The New Orleans quotation, which is the usual two points under the New York quotation, was 9.48 on January 15th and is 8.23 today, January 31st.

Just how far this slide will go is anybody's guess. The Louisiana pricing period has four more weeks to go before the final cane settlement prices are known. The average through the week ending January 30th was 9.2239 for raws and 18.9775 for blackstrap molasses.

Weekly Average Prices of Sugar and Molasses

	Average Price		Price Per Ton Standard Sugarcane Freight Area			Molasses All Freight
Week Ended	Sugar	Molasses	(a)	(b)	(c)	Areas
Oct. 10, 1963	8.6800	22.0000	9.233	9.201	9.169	52.800
Oct. 17, 1963	9.1100	22.0000	9.688	9.657	9.625	52.800
Oct. 24, 1963	10.1700	21.9000	10.812	10.780	10.748	52.470
Oct. 31, 1963	10.1900	21.4000	10.833	10.801	10.770	50.820
Nov. 7, 1963	10.1225	20.6250	10.762	10.730	10.698	48.262
Nov. 14, 1963	9.3800	19.7500	9.975	9.943	9.911	45.375
Nov. 21, 1963	9.1300	19.1500	9.710	9.678	9.646	43.395
Nov. 28, 1963	8.6800	18.6667	9.233	9.201	9.169	41.800
Dec. 5, 1963	9.1940	18.3500	9.777	9.746	9.714	40.755
Dec. 12, 1963	8.7500	17.7500	9.307	9.275	9.243	38.775
Dec. 19, 1963	8.3800	17.5500	8.915	8.883	8.851	38.115
Dec. 26, 1963	8.4800	17.5000	9.021	8.989	8.957	37.950
Jan. 2, 1964	9.2800	17.1250	9.869	9.837	9.805	36.712
Jan. 9, 1964	9.2900	17.3500	9.879	9.847	9.816	37.455
Jan. 16, 1964	9.4800	17.1500	10.081	10.049	10.017	36.795
Jan. 23, 1964	9.4500	17.1500	10.049	10.017	9.985	36.795
Jan. 30, 1964	9.0400	17.2000	9.614	9.582	9.551	36.960
Average To Date (these figures are not official)						
	9.2239	18.9775	9.809	9.777	9.745	42.826

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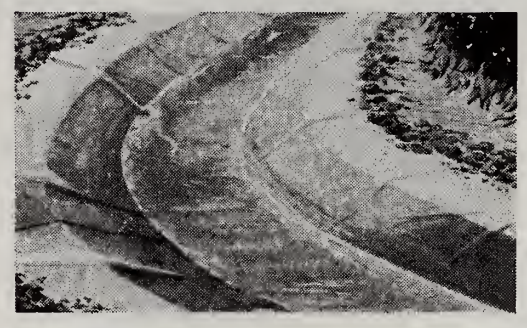

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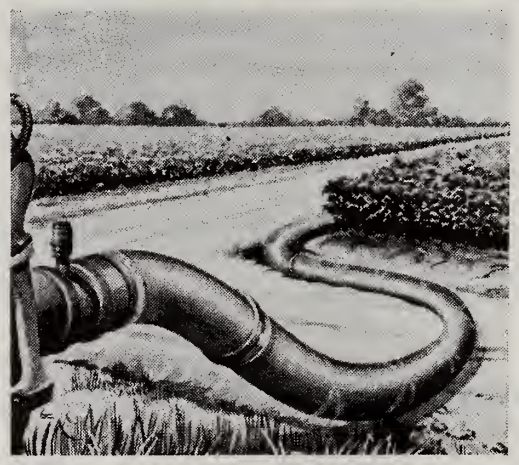

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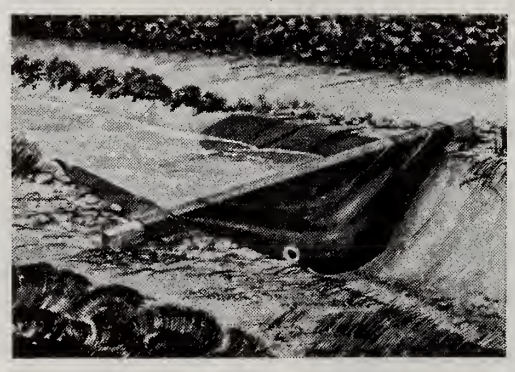

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THE SUGAR BULLETIN

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in the interests of the Domestic Sugar Cane Industry

THE

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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

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Write to the American Sugar Cane League, 414 Whitney Building, New Orleans, La., 70130 for complete information.

Dr. Brandes Passes On

"Dr. Brandes, sir, we award to you our highest degree, that of a life membership in the American Sugar Cane League of the United States, realizing that your accomplishments are too vast to be enumerated and further realizing that you have done more than any other individual toward securing improved varieties of sugar cane which have helped to bring our industry from the depths of despair to the sunlight of prosperity. I take pleasure in awarding this certificate to you in the presence of these assembled friends and request that you wear this token as a symbol of our gratitude and respect." With these words in June of 1943 President Edward J. Gay, now long deceased, bestowed the American Sugar Cane League's highest honor on Dr. E. W. Brandes, without whose good works there probably would be no Louisiana Sugar Industry.

The close identification of Dr. E. W. Brandes with the sugar cane industry of Louisiana is based on the fact that he successfully led the fight to retrieve our industry from the destruction wrought by Mosaic disease. As Senior Pathologist in the office of Sugar Plants, and later as Principal Pathologist in Charge of the Division of Sugar Plant Investigations of the U. S. Department of Agriculture, he was responsible for the introduction of the history making P.O.J. canes which started Louisiana sugar on the road back after production had dwindled in 1926 to only 47,000 tons. The 1964 Louisiana sugar production totaled 760,000 tons.

It was at the urgent request of Dr. Brandes that the American Sugar Cane League started the U.S.D.A. Houma Experiment Station. Funds were voted by the League for the purchase of the land for the Station in 1925 and later for the erection of three buildings for the use of the Federal Government.

From this humble beginning, the Houma Station has moved steadily forward to attain its present enviable position as a leader among the cane sugar experiment stations of the world.

Dr. Brandes was a big man in every sense of the word. He thought big and he was big. He was tall, heavy set, handsome and powerful. He went to far away places like New Guinea in the South Pacific and Uzbekistan in Russia to find wild canes that could be used in developing better varieties of sugar cane for Louisiana. Years ago, we had the good fortune of knowing him well and we are, of course, grateful for that privilege.

(Continued on page 127)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Grass Eats Profits

The title may not be absolutely correct but the effect of the pest is the same. Furthermore it is a fact that grass uses both water and fertilizer that could be used by the cane. So maybe the title is not too bad.

Elsewhere in this issue of The Sugar Bulletin are the recommendations for the control of Johnson grass and other weeds. Growers should go over these recommendations carefully and follow instructions. The recommendations should be kept close at hand for ready reference. Many growers keep the recommendations in the pickup truck. This is a good idea.

Many of us are forever in a hurry. Sometimes this is good, but often the old adage "Haste makes waste" holds true. A few minutes of planning and a little reading can save both time and money. Results from a well planned program are usually in line with what is expected of the practice.

Occasionally earlier plans must be changed to meet changing weather conditions and therefore growers should learn as much as possible about each chemical to be used. To know that a weed control chemical is strictly a pre-emergence herbicide and that it will kill a grass as it emerges but that it will have little or no effect on grass already out to a good growth can often-time save the use of that chemical and inspire the use of a post-emergence chemical. This knowledge can mean the difference between good weed control and failure. It can also mean 3 to 7 tons of cane more per acre.

Growers should also remember that chemicals are extremely expensive when used poorly and therefore if a situation arises which is not covered by the printed recommendation the County Agent should be called. Don't guess at the solution. If the County Agent does not have the answer he will get in touch with the men in research and call you on the matter later. County Agents in the sugar belt are good advisers and they are always eager to help. Call on them.

Worn or poor spray equipment can make the difference between good and very poor control. Old worn out nozzles can make a grower spend more money than necessary. The worst feature about a poor nozzle is it usually gives poor coverage. The result is grassy fields which cost money.

The chemical weed control program is an operation which requires more supervision of labor than most other operations on the farm. One sprayer tank filled with the chemical mixture covers many acres. If the mixture is improper two things can happen. If the mixture does not contain enough chemical, control of grass will be poor. If the mixture is too strong good control of grass may occur but cane will be damaged or dwarfed and yields will be decreased.

It should be noted in the Grass Control Recommendations for 1964 that airplane application for the control of grass is mentioned in several places. The use of aircraft may help in the more timely application of chemicals during periods of muddy field conditions. Because airplane application is fast growers will be able to spray when wind velocities are at a minimum.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sugar Legislation In April—Maybe

The timetable for Congressional action on sugar legislation has not been announced but indications are nothing can be done before April. Cotton, wheat and other agricultural problems already are under consideration in both House and Senate Committees and must be solved before sugar hearings can be scheduled.

In his recent farm message to Congress, President Johnson gave sugar the No. 4 priority. He said " * * * the fact that foreign sugar quotas expire at the end of 1964 highlight the need for some action at this session of Congress to assure ample supplies of sugar to consumers at fair prices.

"I recommend the removal of marketing restrictions on the sale of domestically produced sugar during the calendar year 1964. This legislation will relieve the pressure on world supplies at a time when these supplies are short.

"The effectiveness of our present arrangements for foreign sugar procurement are under intensive study. On the basis of this study I shall — early in this session—make recommendations for remedial legislation."

How soon those "remedial recommendations" will be made is anybody's guess. Most informed sources here feel that the President's statement may portend a radical change in Administration thinking on foreign sugar procurement. Outspoken opposition in Congress to the global quota provisions of the 1962 amendments to the Sugar Act which expire December 31 apparently have caused Government sugar policy makers to stop, look and listen. It is reported that Agriculture Department officials are giving serious consideration to abandoning the global quota concept in an effort to effect a compromise with Congress. Rumor has it that the Department might agree to allocating Cuba's former quota on a temporary basis to domestic areas and specific foreign countries in addition to the basic quotas contained in the Sugar Act.

The Joint Resolution proposed by Secretary of Agriculture Freeman, published in our January 15 issue, has not yet been introduced in either the House or the Senate. That resolution which would authorize the Secretary of Agriculture to suspend marketing allotments of domestically produced sugar during the calendar year 1964 is a step in the right direction but unfortunately for cane sugar producers it does not go far enough. The Secretary removed acreage controls for 1963 and 1964 from Louisiana and Florida cane in spite of growers' warnings that the area's

(Continued on page 127)

RECOMMENDATIONS FOR THE CONTROL OF JOHNSON GRASS SEEDLINGS AND JOHNSON GRASS IN LOUISIANA SUGARCANE, 1964

Ernest R. Stamper, Associate Plant Pathologist, Agricultural Experiment Station, Louisiana State University

Denver T. Loupe, Specialist (Agronomy), Agricultural Extension Service

The weed and grass control program is only one part of a complete sugarcane production program. It cannot reach its maximum potential in increased yields unless all other recommendations for insect control, fertilization, disease control, cultural practices and others are carried out.

Fallow plowing is still necessary to control Johnson grass plants and rhizomes (underground roots and stems). Fallow plowing includes plowing the land six or more times in late spring and summer after the temperature is high enough for good grass growth. Late fall and early winter plowing following early harvested stubble has little or no effect in killing Johnson grass.

Complete Program for Johnson Grass Seedlings and Other Weeds and Grasses

Plant Cane

If the last stubble crop grown was infested with Johnson grass, the next plant cane crop will have a Johnson grass seedling infestation in most of the Louisiana sugarcane area. A complete program is recommended for this condition and careful operation of spray equipment is suggested. *Chemical herbicides* are *expensive* and unless they are properly applied at the *right time* maximum control of weeds and grasses will not be obtained.

Either of three early cultural practices may be followed in plant cane. These practices are:

1. *Shaving*—the removing of excessive dirt covering the mother cane and all weed, grass and top growth of cane killed by winter freezes.

2. *False shaving*—the removing of weeds, grasses and the top growth of cane killed by freezing, but removing little or no dirt from the top of the row.

3. *Chemical shaving*—no mechanical implement used before chemical herbicide application for winter weed control.

Chemical Herbicide Application

If shaving or false shaving is done early and if off-barring is delayed the top of the row should be treated in the same manner as sugarcane not shaved.

Spray the top of the row with 1 pound or 1 quart of silvex with ground machine, or 1-¼ pound or 2-½ pints with an airplane. This is on a per acre basis.

When the plant cane is off-barred, or when the first cultivation is made in chopping the sides and redrawing the row apply either of the following:

1. Four pounds of TCA (silvex at 1 pound or 1 quart may be added) per acre with ground equipment on top and sides of the row.

2. Five pounds of TCA (silvex at 1 pound or 1 quart should be added) per acre if applied by airplane.

Repeat these applications after fertilizing at the same rates, or in some instances after lay-by if applied by airplane. Under some conditions it is desirable to apply a lay-by application of 1-¼ pound of silvex by airplane.

This repeat and timed application in the TCA program has been the weak link in the control program and many growers have *failed* to obtain maximum control because they neglected this application.

FERTILIZER RECOMMENDATIONS FOR SUGARCANE IN LOUISIANA FOR 1964

Prepared jointly by the Louisiana Agricultural Experiment Station and the U. S. Department of Agriculture

For plant cane on light and medium textured soils apply 80 pounds of N per acre by the use of any of the common nitrogen materials. For plant cane on heavy textured soils, apply 80 or more pounds of N. Where the green weight of legumes turned under before planting sugarcane is as much as 9 tons per acre, fertilizer for plant cane is not needed. The yields of legumes are not usually this high. Where poor leguminous growth is obtained, responses to 40 pounds of P_2O_5 and 80 pounds of K_2O per acre can be expected.

For stubble cane on the light to medium textured soils of the Pleistocene Mississippi terraces in areas which are largely west of Bayou Teche and include the Richland, Olivier and Jeanerette soils series, apply 80 to 160 pounds of N, 40 pounds of P_2O_5 and 80 pounds of K_2O per acre.

For stubble cane on the medium to heavy textured alluvial soils apply 80 to 160 pounds of N per acre. Where soil tests show that the available soil phosphorus and available soil potassium are medium to low, which is usually in the very fine sandy loam and silt loam types, apply 40 pounds of P_2O_5 and 80 pounds of K_2O per acre. The plant food may be supplied by the application of 400 pounds per acre of 0-10-20 or the equivalent as 3-9-12 or 0-20-30 supplemented with 60 to 160 pounds of N from either solid or liquid materials.

The practice of splitting applications of nitrogen to stubble cane where 120 or more pounds of N are applied is promising in some cases.

Where the soil pH is 5.5 or less, beneficial effects from liming can be expected. Yields of soybean and clovers can be increased by liming. In many cases, soils are more acid than pH 5.5. The application of 2 tons of ground limestone per acre is usually sufficient to correct the soil acidity.

Fenac

Fenac is a pre-emergence chemical and has little or no effect on weeds and grasses if applied after they have emerged from the soil. This means that all applications should be made early. Fenac works best following an early application of silvex. Fenac may injure sugarcane in extremely heavy or black soils.

Apply 6 quarts of 1-½ gallon of Fenac per acre. If a pick or rotary hoe is used apply immediately following this practice.

Fenac contains 1-½ pounds of active Fenac per gallon—silvex and 2, 4-D contains 4 pounds per gallon.

If silvex is used early and Fenac is applied as described no other application of chemical should be needed.

Rogue out any and all Johnson grass plants in plant cane to insure a clean stubble crop.

Stubble Cane

If Fenac was used on plant cane the stubble should be treated with 7 pounds of TCA plus 1 pound of silvex. This application should be made after off-barring whether shaved or not shaved.

If the stubble is shaved, off-barring should be done as soon as possible. Follow immediately with an application of 11 pounds of TCA and 1 pound of silvex per acre. Adjust the equipment so the spray pattern covers the sides of the bar-furrow as well as the top of the row. TCA is more effective when followed by rains and warm weather than in

(Continued on next page)

dry, cold weather. Thus, shaving, off-barring and TCA application is more effective when done in late February and March. If after the application of 11 pounds of TCA, Johnson grass is still a problem, apply 4 pounds of dalapon per acre with a ground sprayer. This should be a directed spray and *only* on varieties of C.P. 36-105, C.P. 44-101, and C.P. 52-68.

Stubble that is *not shaved* or if it was shaved early and off-barring is delayed, such that the grass is growing an application of 7 pounds of TCA plus 2 pounds of Dowpon plus 1 pound of silvex per acre should be made. Mix these three chemicals together and spray in one application over the sugarcane and the grass. This application should be made in warm weather (temperature above 65°F). The grass should be actively growing and not over 10 inches high. This application should be made after the cane has been fertilized and the grass has recovered from burn or shock from the fertilization.

Airplane Application in Stubble Cane

Under some conditions it may be advisable to spray stubble cane with an airplane. The amount of grass, its vigor, the age of the grass and general environmental conditions will determine the feasibility of the application. From 3 pounds to 5 pounds of Dowpon per acre are suggested. Some injury may occur on the more susceptible varieties, but yields of cane have not been reduced in the past from this application.

The use of an airplane in applying herbicides to sugarcance is very precise. A good ground crew that mixes the chemical well and a good set of flagmen are absolutely necessary. If these crews are not available it is suggested *not* to use an airplane for applying herbicides in sugarcane.

General Weed and Grass Control In Louisiana Sugarcane

Some areas and individual properties in the Louisiana sugarcance belt have little or no Johnson grass. These properties are usually infested with annual weeds and grasses.

The following chemical herbicide applications are suggested for these select areas.

Shaved or Not Shaved Plant and Stubble

1. Apply 1 pound of silvex early in the season on the top of the rows of both plant and stubble cane. If an airplane application is made use 1 to 1-¼ pound of silvex. If the cane is shaved or false shaved the application should be made after shaving.

2. After the cane is fertilized and the rows are redrawn and before weeds and grasses emerge in the spring, apply either:

(a) Two pounds TCA plus 1 pound of Dowpon (½ to ¾ pound of silvex may be added). One application after fertilizing is usually sufficient, in some cases a repeat application may be necessary.

(1) A lay-by broadcast application of 5 pounds TCA plus ½ to ¾ pound silvex is suggested, this is best done by the use of an airplane.

(b) *Fenac*—Apply 5 quarts (1-¼ gallon) of Fenac per acre with a ground machine following the early silvex application. This is the only application necessary.

If Bermuda grass (blue or wire grass) is a problem, two applications of the 2 pounds TCA plus 1 pound of Dowpon plus ½ to ¾ pound of silvex is suggested.

Ditchbank Control

As yet, there is no good ditchbank control chemical. Several chemicals are effective in killing Johnson grass to the ground but regrowth occurs and reinfestation from the cane fields is apparent.

Sodium chlorate at 450 to 600 pounds per acre is the most effective and most economical chemical available for ditchbank control of Johnson grass.

Sodium chlorate is dangerous to use and should be mixed with calcium chloride (3 to 1) before it is applied.

APPLICABILITY OF WAGE AND HOUR EXEMPTION TO TRUCK DRIVERS OF INDEPENDENT CANE HAULERS

During the 1963 harvest season, n connection with inspections made y representatives of the Wage and Hour Division of the U. S. Depart-nent of Labor, the question arose as o whether truck drivers employed y independent sugar cane haulers re subject to the minimum wage nd over-time provisions of the Fair abor Standards Act. Because of everal areas of uncertainty in inter-reting and applying the pertinent ection of the Act and the regulations oncerning this question, the League's ttorney was requested to attempt o clarify the situation with the Wage nd Hour Division. This now has een done through discussions and orrespondence.

The pertinent provision of the Fair abor Standards Act is Section 13 a) (10) which exempts from the inimum wage and over-time provi-ions of the Act:

"any individual employed within the area of production (as defined by the Secretary), engaged in handling, packing, storing, compressing, pasteurizing, drying, preparing in their raw or natural state, or canning of agricultural or horticultural commodities for market, or in making cheese or butter or other dairy products."

Although in applying this exemption each case must be determined on its particular facts, generally, truck drivers of an independent sugar cane hauler are exempt from the minimum wage and over-time provisions of the Fair Labor Standards Act if the following conditions exist:

(1) The truck driver is actually engaged in transporting sugar cane, and is not engaged in a non-exempt occupation during the same work week.

(2) The hauling of the sugar cane is "for market." "For market" means that the sugar cane is owned by the farmer when the hauling is performed, and title does not become vested in the processor until delivery

(Continued on next page)

The people applying the material hould change clothing after spray-ng and before the clothes dry.

Sodium chlorate is a fire hazard nd care should be taken in storing nd using the material to prevent ire disaster.

Chemicals

Dalapon (Dowpon)—2, 2-dichlo-opropionic acid, sodium salt.

TCA—Trichloroacetic acid, sodium alt.

Silvex—2, 4, 5-trichlorophenoxy-propionic acid (Kuron, 2, 4, 5-T-P nd others) 4 pounds per gallon.

Fenac—2, 3, 6-trichlorophenylace-ic acid). 1-½ pounds per gallon.

2, 4-D Amine—The amine salt of 2, 4-dichlorophenoxyacetic acid. This naterial (while not as effective as ilvex may be used instead of silvex t the same rates mentioned.)

Cautions and Hazards

The labeling of all pesticides by the U. S. Department of Agriculture and the approval of pesticides by the Food and Drug Administration is very important.

Stop

Read all labels on the product you are using or allowing someone else to use on your property. Be sure they are approved for use under the circumstance that is agreeable to you.

As yet, there is no miracle chemical herbicide for sugarcane. The U.S.D.A. and the Louisiana Agricultural Experiment Station and Extension Service will do their best to keep you informed on the best available chemical herbicide for your use, and the most effective way to use it.

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[1] The Summer and Fall plant cane program will be handled separately at the proper time for 1964.

THE SUGARCANE SEEDLING PROGRAM AT THE U. S. SUGARCANE FIELD STATION, HOUMA, LOUISIANA, 1962-63

By R. D. Breaux and H. P. Fanguy, Research Agronomists, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture

The sowing of true sugarcane seed in the greenhouses at the Houma station each January begins anew the search for sugarcane varieties that meet the exacting requirements of the Louisiana sugarcane industry. In 1961, Abbott(1) reported considerable spread of mosaic in "resistant" varieties of sugarcane, including the major commercial variety C.P. 44-101, and identified a new strain of the virus as the cause. Abbott and Todd(3) later reported that even some forms of *Saccharum spontaneum*, wild ancestors of present Louisiana commercial varieties once believed immune from mosaic, also became infected with strains of the virus now present in Louisiana and Florida. These findings indicated that the task of incorporating resist-

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TRUCK DRIVERS

at the mill. It is our understanding that generally cane is so marketed in Louisiana. The fact that the processor makes an allowance to the farmer for hauling, or that the processor pays the independent hauler directly for the hauling, makes no difference, if the hauling is "for market." These facts were presented to the Wage and Hour Division by the League's attorney, and we quote from the Division's letter of December 26, 1963, as follows:

> "With respect to independent haulers, if the hauling is performed for or on behalf of the farmer, and the sugar cane is owned by the farmer when the hauling is performed, then such hauling is 'for market.' "

In this connection, it is important to bear in mind, that if the cane is hauled after title passes to the processor, then the hauling is not "for market" and the exemption is not applicable.

(3) The "establishment" where the truck driver is employed is located more than one air line mile from a "city, town or urban place" of 2,500 or greater population; more than three air line miles from a "city, town or urban place" with a population of 50,000 or greater population; and more than five air line miles from a city with a population of 500,000 or greater. The Wage and Hour Division takes the position that the establishment where the truck driver is employed means the establishment of the independent hauler. This establishment would normally be the location where the trucks are kept, where the drivers report for work and return the trucks when work is completed, and where the trucks are serviced. This location, of course, depends on the facts of each case.

(4) At least 95% of the sugar cane hauled by the independent hauler's establishment comes from normal rural sources of supply located not more than 50 air line miles from the establishment.

Each independent hauler should appraise his situation in the light of the above standards prior to the 1964 crop season. After doing so, if there is any question in his mind he should consult his attorney.

This question does not involve truck drivers who are employed by a sugar cane farmer who hauls only his own cane to the mill. Truck drivers employed by a farmer who hauls only his own cane are exempt from the minimum wage and over-time provisions of the Act under the agricultural exemption contained in Section 13 (a) (6).

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Table 1. Summary of sugarcane seedlings plant, field examinations, and selections in seedling nurseries and clonal plots and C. P. assign ent at Houma, La., in 1962.

Crossing year/Location/Series	Seedlings			Clonal Nurseries		
	Tested					C.P.
	Hills	Seedlings	Selected	Tested	Selected	Assignments
	No.	No.	No.	No.	No.	No.
1961 Canal Point Series (Plant)	75,756	242,173	-			
1961 Canal Point Breeding Series (Plant)	5,528	5,528	-			
1961 Canal Point Series (Stubble)	90,832	244,028	6,576			
1959 Canal Point Series				6,067	763	-
1958 Canal Point Series				7,363	744	146
Total	172,116	491,729	6,576	13,430	1,507	146

ance to current strains of the virus in commercially-adapted varieties would be long and difficult. The worsening mosaic situation makes the continuity, expansion and improvement of a sound breeding program increasingly essential to the Louisiana sugarcane industry.

In addition to the continual change in known pathogens, it has been noted for some time that varieties of sugarcane tend to decline in yield for reasons not completely understood. Reports by Matherne et al.(8) and Stafford et al.(9) showed the gradual yield decline in recent years of the variety N. Co. 310. Low stubble yields could force abandonment of this variety which, though susceptible to mosaic, offers the industry more cold tolerance than any other variety now available.

The sugar industry faced and solved similar problems in the past with its breeding and seedlings programs. The challenge presented to the breeding program is greater than ever, however, because very well adapted high-yielding varieties susceptible to mosaic must be replaced. This report summarizes some of the effort of the past year to meet this challenge.

Greenhouse and Seedling Selection Work

In the 1961-62 breeding season at the U. S. Department of Agriculture's breeding station, Canal Point, Fla., over 350 crosses were made specifically for Louisiana(7). In the spring of 1962, 242,173 seedlings were set in the field in 75,756 hills at the Houma station (table 1). The spray method of mosaic inoculation as reported by Dean(6) replaced the abrasion method of inoculating the seedlings in this series. The method proved to be much less time consuming and resulted in a higher percentage of infection in similar material than the abrasion technique. However, results were inconsistent throughout the inoculation period and poor infection resulted particularly in the latest planted seedlings. More satisfactory results were obtained in the Canal Point 1962 breeding series, however, as reported in another paper(5).

Five thousand five hundred twenty-eight seedlings were transplanted to the field from experimental breeding crosses made by C. O. Grassl at Canal Point (table 1). These crosses involved several forms of *Saccharum spontaneum* not found in the parentage of the present commercial varieties in Louisiana. It was believed that the development of new lines of breeding material resistant to Louisiana strains of mosaic virus could be accelerated by screening these basic crosses against local strains. This

(Continued on page 126)

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exchange of material will continue.

Fortunately, an unusually large number of units, 90,832, had been established from seedlings of the Canal Point 1960 breeding series at the Houma station in 1961. The severe freeze in January, 1962 had an adverse effect on the stubble seedling crop. Survival counts showed that 56,097 units survived the freeze while the remainder (39 percent) failed to stubble. However, the 6,576 selectons made from the 1960 series last fall (table 1) assure continuity of the program in spite of the freeze damage.

Selection Work in Clonal Nurseries

Selections from the seedling nurseries at Houma are replanted in 5-foot clonal plots at Georgia Plantation, Mathews, La., in cooperation with the South Coast Corporation. There are 13,430 varieties in first-line trial at Mathews (table 1) and selection in these clonal plots now requires more time and effort than selection in seedling nurseries. From the 6,067 plant cane plots of the Canal Point 1959 breeding series, 763 selections were replanted at the Houma station in the fall of 1962 (table 1). These varieties will form the bulk of the 1963 C. P. number assignments.

1962 C. P. Assignments

Representatives of the Louisiana Agricultural Experiment Station and the American Sugar Cane League met with personnel of the Houma station on October 29, 1962, for joint assignment of permanent variety numbers. This committee accepted a total of 176 varieties (table 1) for C. P. number assignment. Most of these (146) were from the 1958 Canal Point breeding year.

The expanding seedling program at Houma alone will yield from 100 to 150 varieties each year that meet minimum standards for C. P. assignment. This is two to three times as many as were previously assigned. There will be a need to expand the testing program at the infield and outfield levels to evaluate this larger number of varieties.

The 1961 and 1962 C. P. assignments represent the first groups of varieties to come from the expanded seedling and selection program inaugurated in 1957 and 1958. A previous report(4) showed that as a group these varieties are above average in agronomic type, particularly sucrose content and stalk size and weight.

Performance of these new varieties with respect to resistance to mosaic will be of particular interest. Through the cooperation of Milliken and Farwell, pathologists of the Houma station maintain nurseries at Waterford Plantation, Killona, La., to determine resistance of parent varieties to mosaic(2). Every effort is made at Canal Point to use as parents varieties that show resistance or tolerance to mosaic in these mosaic nurseries. Forty-nine (33.5 percent) of the 146 varieties assigned 1962 numbers have mosaic-tolerant or resistant varieties as both their immediate parents. An additional 67 varieties (45.8 percent) have at least one tolerant parent. Thirty varieties (20.5 percent) originated from susceptible parents. Techniques of screening for mosaic resistance in the greenhouse were not as efficient in 1959 as they are today. While the majority of these varieties will probably be susceptible to mosaic it can be hoped that the tolerance of some of the more resistant parents will be found in an agronomically acceptable variety.

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IN WASHINGTON

(Continued from page 117)

marketing quota in the present Sugar Act is not large enough to permit unlimited plantings. Both States have responded to the Government's plea for more sugar production. Growers and processors alike are expanding their operations. Therefore, the Government must devise some way for producers to market their crops, not only in 1964 but also in future years.

The mainland cane area, Louisiana and Florida, must have an increase in basic quota which will permit producers for the duration of the present Sugar Act to market the sugar they have produced and will produce in response to the Government's plea for larger domestic sugar supplies.

We feel confident that Department of Agriculture officials and Congressional leaders realize the seriousness of mainland cane's situation and at the proper time during this session of Congress will take appropriate action to solve our problem.

———o———

UP FRONT

(Continued from page 115)

Dr. Brandes died on February 2, 1964 in Palm Beach, Florida. Our friend who was 72 years old is now a part of history.

J. Nelson Fairbanks

It is a pleasure to introduce to you the latest member of the staff

of the American Sugar Cane League. He is J. Nelson Fairbanks, Louisiana State University graduate who was born twenty-eight years ago in the little town of Jonesville, Louisiana. He is going to be the Economist for the League.

J. Nelson Fairbanks has completed the requirements for a Master of Science degree in Agricultural Economics at L. S. U. Perhaps some of the readers of *The Sugar Bulletin* will remember him from his tour of duty as Associate County Agent of East Baton Rouge Parish from 1958 to 1961.

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative
J. Nelson Fairbanks, Economist

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

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The Pricing Period Ends

The 1963-64 Louisiana Pricing Period ended on February 27th after twenty-one rather hectic weeks. It will be noted in the table below, that the period began with a weekly price for raw sugar, delivered New Orleans, of 8.68 cents a pound, reached a high point of 10.19 cents a pound on October 31st, and ended the season at the low mark of 7.9850 cents a pound.

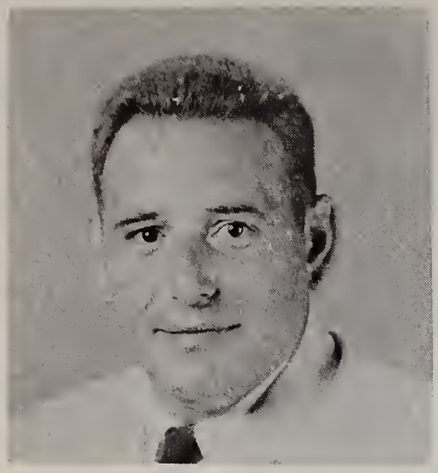
It is obvious that from October 5th through February 27th our Old Mule was in a state of confusion. We believe that the term "yoyo" is about the best description of the market that we have heard. Prices were up one day and down the next and nobody knew what to expect. It is hard to believe, but nevertheless true, that on one day a Louisiana mill sold several thousand tons of raw sugar to a local refiner at a price that turned out to be 55 points above the New York spot quotation. Apparently the experts were as confused as the Old Mule.

The Blackstrap molasses market was its usual messy self with the bulls and the bears "enjoying" their usual tug of war. The Louisiana Sugar Exchange made the "big time" when one buyer got mad and wrote his Senator demanding a "congressional investigation," or something, because he thought the quotations being issued by the Exchange were too high and we know of another buyer who appealed to the big boss of the Wage and Price Section of the ASCS on the same grounds. The weekly quotations for blackstrap began the season at 22 cents a gallon and ended the season at 17 cents a gallon. It is interesting to note that the so called "Government Dealer Price" began the season at 22½ cents a gallon and ended the season at 17½ cents a gallon.

(Continued on page 138)

Weekly Average Prices of Sugar and Molasses

	Average Price		Price Per Ton Standard Sugarcane Freight Area			Molasses All Freight
Week Ended	Sugar	Molasses	(a)	(b)	(c)	Areas
Oct. 10, 1963	8.6800	22.0000	9.233	9.201	9.169	52.800
Oct. 17, 1963	9.1100	22.0000	9.688	9.657	9.625	52.800
Oct. 24, 1963	10.1700	21.9000	10.812	10.780	10.748	52.470
Oct. 31, 1963	10.1900	21.4000	10.833	10.801	10.770	50.820
Nov. 7, 1963	10.1225	20.6250	10.762	10.730	10.698	48.262
Nov. 14, 1963	9.3800	19.7500	9.975	9.943	9.911	45.375
Nov. 21, 1963	9.1300	19.1500	9.710	9.678	9.646	43.395
Nov. 28, 1963	8.6800	18.6667	9.233	9.201	9.169	41.800
Dec. 5, 1963	9.1940	18.3500	9.777	9.746	9.714	40.755
Dec. 12, 1963	8.7500	17.7500	9.307	9.275	9.243	38.775
Dec. 19, 1963	8.3800	17.5500	8.915	8.883	8.851	38.115
Dec. 26, 1963	8.4800	17.5000	9.021	8.989	8.957	37.950
Jan. 2, 1964	9.2800	17.1250	9.869	9.837	9.805	36.712
Jan. 9, 1964	9.2900	17.3500	9.879	9.847	9.816	37.455
Jan. 16, 1964	9.4800	17.1500	10.081	10.049	10.017	36.795
Jan. 23, 1964	9.4500	17.1500	10.049	10.017	9.985	36.795
Jan. 30, 1964	9.0400	17.2000	9.614	9.582	9.551	36.960
Feb. 6, 1964	8.0400	17.0000	8.554	8.522	8.491	36.300
Feb. 13, 1964	8.0675	17.0000	8.583	8.552	8.520	36.300
Feb. 20, 1964	8.0000	17.0000	8.512	8.480	8.448	36.300
Feb. 27, 1964	7.9850	17.0000	8.496	8.464	8.432	36.300
SEASON'S AVERAGE	8.9952	18.6008	9.567	9.535	9.503	41.583



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Contact Meeting
Thursday, March 19, 1964

It is again time for the Contact Committee of the American Sugar Cane League to hold its Annual L.S.U. meeting. The meeting will be held on the Baton Rouge, La. Campus in Pleasant Hall beginning at 9:30 o'clock on the morning of Thursday, March 19, 1964. Scientists working on the problems of sugar cane will give reports on research studies of the past year and outline research plans of the future.

Dr. Charles Upp, Director of the Experiment Station and Mr. Malcolm Duhe, Chairman of the Committee, invite all cane growers and interested parties to attend this important meeting. Growers should be interested to hear the new findings of research on the crop they grow. It is interesting to note that research in entomology, engineering, pathology, agronomy and in other sciences has played an important role in the increased yields of cane and sugar per acre of the past several years. No single finding can take full credit.

Growers should take this opportunity to visit with the scientists working on sugar cane. A good attendance will make these researchers know that they are appreciated and needed. A schedule of the program is printed below. Each subject should be interesting to all cane growers.

PROGRAM

Morning

9:30 - 10:00 — Agricultural Engineering Research on Sugar Cane Machinery and Land Drainage—M. M. Mayeux and I. L. Saveson (USDA)

10:00-10:20—Results of Fertilizer Tests with Sugar Cane in 1963—L. E Golden

10:20-10:35—Coffee

10:35-10:45—True Seed of Suga Cane in Louisiana—S. J. P. Chilto

10:45-11:05 — Sugar Cane Breed ing—M. Giamalva

11:05-11:25—The "L" Series—L Anzalone

11:25-11:45—Report on New Sug ar Cane Varieties—E. C. Simon

11:45-12:05 — Results with Som New Sugar Cane Varieties in Out field Tests in 1963—T. J. Stafford

12:05-1:45—Noon Recess

Afternoon

1:45-2:00 — Results of Studies o Ratoon Stunting and Mosaic Dis eases—R. J. Steib

2:00-2:15—Basic Studies of Suga Cane Diseases—I. L. Forbes

2:15-2:40—Sugar Cane Insect Re search in 1963—W. H. Long

2:40-3:00 — Weed Control—E. R Stamper

3:00-3:15—Coffee Break

3:15-3:30 — Physiology of Suga Cane—W. C. Normand

3:30-3:45 — Uptake of Nutrient from Soils by Sugar Cane — L. E Golden

Don't Plow Out Stubble Too Soo

For a second time this year, thi column will advise growers to hol stubble. *Do not plow out* yet. Feb ruary has been both cold and wet Although a limited survey made dur ing middle February has shown both plant cane and stubble cane seed pieces to be in good condition, and a considerable amount of green has shown in some fields, no one is cer

(Continued on page 138)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

To Fight—Or Not To Fight

It looks like a real battle royal is shaping up on sugar legislation. The Administration is in one corner of the Congressional ring, U. S. Cane Refiners and Hawaii in another corner, domestic continental beet and cane producers are in a third corner and the battle will be refereed by the industrial users — unless they get mad during the fracas and start swinging too.

The preliminaries began in Washington on February 18 at a meeting of the domestic beet and cane sugar producers, refiners and industrial users, State Department and Bureau of the Budget to discuss the Administration's proposal to permit the marketing in 1964 of domestically produced sugar without regard to quota. The meeting sponsored by the U. S. Department of Agriculture was presided over by Horace D. Godfrey, A.S.C.S. Administrator, Sugar Policy Director, Tom Murphy, and James L. Sundquist, Deputy Under Secretary of Agriculture.

The Government spokesmen outlined the actions which U.S.D.A. had taken recently to assure adequate supplies of sugar for United States consumers as well as their efforts to keep sugar prices from getting too high. Government spokesmen said they believe that passage of the Joint Resolution would help to stabilize sugar prices, especially during the spring and summer months of this year.

Dr. Philip Jones of the U. S. Beet Sugar Association said, "We feel that early passage of legislation implementing the President's recommendation would accelerate the rate of beet sugar marketings in the spring and summer of 1964 and, therefore, should contribute to greater market stability during such periods. Under today's circumstances it is not fair to consumers, it is not sound long-run sugar policy and it is not good for the country to have any domestic sugar, not even a pound, arbitrarily kept from the United States market."

Yours truly, for mainland cane, endorsed the position of the beet industry to the extent of agreeing that early legislation to solve the marketing problem was essential. We pointed out that while the proposed resolution might be a step in the right direction it did not go far enough. That because sugarcane was not an annual crop its growers and processors must of necessity look further into the future than just the year 1964. We urged the Government sugar policy makers to take a longer view with the idea in mind that basic quota increases to reflect increased mainland cane and beet production would be more effective and certainly more satisfactory than the proposed resolution.

Mr. Irvin Hoff said the Refiners' Association was opposed to the President's recommendation on the ground that it would not make any additional sugar available to the United States market and if additional sugar was needed to meet consumers' needs or to forestall further price increases the way to accomplish this was by authorizing the entrance of additional global quota sugar.

(Continued on page 138)

COMPARISON OF HOT-WATER AND HOT-AIR TREATMENTS OF SUGARCANE SEEDCANE FOR CONTROL OF RATOON STUNTING DISEASE IN LOUISIANA

By Natale Zummo,[1] Research Plant Pathologist, Crop Research Division, Agricultural Research Service, U. S. Department of Agriculture

Hot-air treatment of sugarcane is widely used in Louisiana for control of ratoon stunting disease (RSD), while hot-water treatment is generally employed for that purpose in other sugarcane-growing areas. Following recommendation of the Committee on Control of Stunting Disease[2] that hot air was the most feasible means of heat treatment in Louisiana, more than 100 electrically heated units built according to specifications approved by the Committee have been purchased by growers, and heat treatment of seedcane has become a routine procedure. As pointed out by Schexnayder,[3] "This recommendation of the Committee does not necessarily mean that hot air is superior to hot water as a means of controlling the disease, since either appears to be equally effective in Louisiana". However, data available at that time indicated that hot air was less injurious to seed pieces, particularly for early planting.

The successful use of hot-water treatment by the South Coast Corporation at Raceland, La., during the past several years prompted a comparison of the two methods for control of RSD and their effects on germination and stands of cane with the present three leading commercial varieties C. P. 44-101, C. P. 52-68, and N. Co. 310.

Table 1. Comparison of hot-water and hot-air treatments of sugarcane seedcane for RSD control, Raceland, La., 1960-61

Variety and treatment	Date planted	Plants per 100 row ft. 12/6/60	Plants per 100 row ft. 4/19/61	Plants Examined for RSD: Total	Plants Examined for RSD: RSD-infected
		No.	No.	No.	No.
C. P. 44-101					
HAT	9/20/60	142	126	10	2
HWT 2 hrs.	"	127	110	10	0
HWT 2½ hrs.	"	75	67	10	1
C. P. 52-68					
HAT	10/14/60	-	62	10	1
HWT 2 hrs.	"	-	80	10	1
HWT 2½ hrs.	"	-	70	10	0
HWT 3 hrs.	"	-	72	10	2
N. Co. 310					
HAT	9/28/60	108	115	10	0
HWT 2 hrs.	"	125	122	10	2
HWT 2½ hrs.	"	157	153	10	2

Materials and Methods

In the fall of 1960, one-ton bundles of C. P. 44-101, C. P. 52-68, and N. Co. 310 seedcane were treated with hot air (C. P. 44-101 at 59° C. and C. P. 52-68 and N. Co. 310 at 58° C. for 8 hours) and with hot water (50° C. for 2, 2½, and 3 hours). They were planted by variety, two canes and a lap in adjacent cuts of land. The cane in all treatments of each variety came from the same fields. Primary shoots were counted in the fall and spring to determine the effect of the different treatments on germination. The cane was examined for RSD symptoms in August 1961.

In the fall of 1961, two-ton bundles of cane of the three varieties were hot-water treated at 50° C. for 2, 2½, and 3 hours and one-ton bundles were treated with hot air as in 1960. Method and rate of planting were the same as in 1960. Primary shoots were counted in the fall and spring. Fifteen stalks from each treatment of each variety were examined for RSD symptoms in the summer and again in the fall.

Internal stalk temperatures of N. Co. 310 during hot-water and hot-air treatments were determined with a Brown portable potentiometer. The leads were inserted approximately three inches into the basal portions of stalks to be treated. The lowest temperature of the 24 thermocouples recorded was used as the internal stalk temperature. The internal temperature determinations for the hot-water treatment were made at Raceland, while those for the hot-air treatment were made on three different hot-air ovens over a three-year period.

(Continued on next page)

Table 2. Effect of hot-water and hot-air treatments of seedcane on stands of 3 varieties of sugarcane, Raceland, La., 1961-62.

Variety and treatment	Date planted	Plants per 100 row feet at different dates			
		Before freeze		After freeze	
		10/23/61	11/30/61	1/17/62	4/30/62
		No.	No.	No.	No.
C. P. 44-101					
HWT 2 hrs.	9/25/61	49	126	140	140
HWT 2½ hrs.	"	16	77	69	96
HWT 3 hrs.	"	36	94	93	106
HAT	"	66	203	190	111
C. P. 52-68					
HWT 2 hrs.	10/2/61	13	101	130	94
HWT 2½ hrs.	"	1	48	53	51
HWT 3 hrs.	"	1	46	56	51
HAT	9/28/61	84	141	158	112
N. Co. 310					
HWT 2 hrs.	9/28/61	13	90	92	90
HWT 2½ hrs.	"	7	72	84	86
HWT 3 hrs.	"	5	57	60	67
HAT	"	5	62	74	90

Results

C. P. 44-101 hot-air-treated in the fall of 1960 gave a stand superior to that obtained with the hot-water treatments. With C. P. 52-68 and N. Co. 310, all hot-water treatments gave stands superior to those obtained with hot air. Hot air and hot water gave essentially the same degree of RSD control (table 1).

Cane treated in the fall of 1961 with hot water for two hours showed approximately the same stand as that treated with hot air (table 2). Stands of cane treated with hot water for 2½ hours and 3 hours were inferior to those treated with hot air. However, even the poorest stands obtained with hot water (C. P. 52-68 for 2½ and 3 hours) were acceptable for heat-treated cane. RSD symptoms were lacking in all the heat-treated cane examined in the summer and fall.

The potentiometer readings with N. Co. 310 showed that with the hot-water treatment (temperature 123° F.) all cane in a one-ton bundle reached an internal stalk temperature of 122° F. (50° C.) in one hour and remained between 122° and 123° for at least one hour. In the hot-air treatment with an ingoing air temperature of 58° C. (136.4° F.), between five and six hours were required to reach an internal stalk temperature of 122° F. in all cane in the oven (data not shown). The cane remained at this temperature for two to three hours. Theoretically the longer period at 50° C. or above internal stalk temperature in hot-air treated cane compared with one hour in hot-water treated cane should bring about a higher degree of disease control. However, the cane treated with hot water in 1960 and 1961 showed essentially the same degree of disease control as that treated with hot air.

Discussion

All hot-air treatments gave essentially the same degree of disease control as the hot-water treatment. The cane treated with hot air generally gave better stands than did that treated with hot water. However, even the poorest stands obtained with hot water were acceptable for heat-treated cane. Weak stands could be improved by planting more cane per acre. Since about 65 plants per 100 row feet can be considered a commercially acceptable stand, by planting three stalks and a lap it would be possible to treat with hot water at 50° C. for 2½ hours and obtain at a lower cost a stand comparable to that obtained with hot air. The cost of the additional hand labor involved in the hot-air treatment would exceed the value of the extra cane used in the hot-water treatment.

The advantages of hot-air over hot-water treatment in Louisiana are low initial cost of the unit and readily available source of heat (electricity), which is available on all farms in the Louisiana sugarcane district. Hot water requires a more costly installation and source of heat (steam), which is available only at sugarcane mills. These are the principal reasons why hot air is used more widely than hot water for RSD control in Louisiana.

---

[1] Work conducted in cooperation with M. L. Shaffer, research agronomist, South Coast Corporation, Houma, La.

[2] Anonymous. 1955. Report of the Committee on Control of Stunting Disease. Sugar Bull. 33:226, 232-234.

[3] Schexnayder, C. A. 1956. The effect of stunting disease of sugarcane on yields of cane and sugar in Louisiana, and the use of heat treatment for control. Sugar Bull. 34:349-355.

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IN THE FIELD

(Continued from page 132)

tain of stands at this time. The cold wet weather of the last two weeks has not been favorable. The first 15 days of March in many years have been known to be cold and wet. Wait a little longer before "busting out stubble."

Keep some additional cane for a later decision. If the price goes high, it may be advisable to have a few more acres of cane. There is also some talk about the possibility of acreage restrictions for 1965. To be sure of stand wait till the end of March.

———o———

UP FRONT

(Continued from page 131)

Harang Heads Technologists

It is a pleasure for us to report the election of Warren J. Harang, Jr., as the new President of the American Society of Sugar Cane Technologists. Mr. Harang's selection to head this very fine organization was announced at the annual meeting held in Baton Rouge on February 6th.

Other elections also announced at the meeting were William S. Chadwick, 1st Vice-President, Paul Cancienne, 2nd Vice-President, E. R. Stamper, Chairman of the Agricultural Section, Thomas H. Allen, Chairman of the Manufacturing Section, Frank L. Barker, Jr., Chairman at Large, and Denver Loupe, Secretary-Treasurer.

IN WASHINGTON

(Continued from page 133)

In private circles it is quite evident that the refiners' group is determined to defeat the Government's proposal and to fight to the last drop of their blood to prevent any increase in domestic quotas. The Hawaiian group apparently is not in favor either of a joint resolution or any expansion in beet and cane quotas. The disagreement between the various segments of the industry could develop into a good first class brawl. This situation, however, is not unusual. Each time sugar legislation is in the offing various segments of the industry roll up their sleeves and flex their muscles but before the opening bell sounds they always reconcile their differences without much blood letting.

Despite appearances to the contrary, history could, and we earnestly hope will, repeat itself.

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Lloyd L. Lauden, Agronomist and Field Representative

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Josiah Ferris, Manager

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IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

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Three Points Of View

Substantial increases in marketing quotas for continental beet and cane sugar producers will greatly benefit all United States sugar consumers, Robert H. Shields, President and General Counsel of the U. S. Beet Sugar Association told an audience of New England candy makers in Boston, March 4. Mr. Shields said both the domestic beet and mainland cane sugar producers at the urging of Congress and the Executive Branch of Government have increased production far above present quotas in order to make available needed additional sugar supplies to United States consumers at reasonable prices.

Domestic beet and mainland cane quotas can be increased by using part of the former Cuban quota temporarily earmarked for Cuba's return to the free world, Mr. Shields pointed out. "It is obvious now that continuing to hold back this sugar for Cuba in the hope that it will lure her back is only wishful thinking," he said.

The only alternative to raising domestic quotas would be to sharply curtail domestic sugar production. "I am sure you recognize," Mr. Shields said, "that sharp curtailment of domestic sugar production would not be in your interest or in the interest of American sugar consumers generally nor would such penalties be just. To cut back American farmers in order to hold the door open for Communist Cuba would seem to us to be an indefensible action."

Following Mr. Shields on the program of the New England Manufacturing Confectioners Association, Mr. Irvin A. Hoff, Executive Director of the U. S. Cane Sugar Refiners Association, took the opposite point of view. According to Mr. Hoff, a transfer of quota from foreign suppliers to the "expensive" beet industry would be bad for the confectioners of New England and also for the entire country because it would seriously hamper foreign trade with sugar producing nations which depend in large measure on sales of sugar for the dollars with which to purchase goods and agricultural products from the United States. "Historically," he said, "foreign trade has been the life blood of New England and anything that would have a deleterious impact on the economy of New England would affect the sales of your product as well." According to the refiners' spokesman, expansion of beet sugar production would strike a blow at United States' efforts to help the underdeveloped nations of Latin America to help themselves through increased trade. "A reduction of foreign sugar supplies would perpetuate not just 'pockets of poverty' but 'countries of poverty'. More beet quotas would increase sugar costs and render you less competitive," Mr. Hoff said.

Opposition to increased marketings of domestically produced sugar was made by the Industrial Sugar Users Group in a letter to Mr. Tom O. Murphy, Director, Sugar Policy Staff, U. S. Department of Agriculture. The group took specific objection to the Joint Resolution proposed by Secretary of Agriculture Freeman to permit unlimited marketings in 1964 by the domestic beet and cane producers. According to Mr. Joseph M. Creed who signed the letter on behalf of the Industrial Sugar Users Group, "Since the immediate need for supplies can be satisfied through existing provisions of the Sugar Act, it seems an ill-advised time to seek now precedent-establishing actions which will further burden and entangle this exceedingly complex law." The letter requested the Department not to seek Congressional action on the Joint Resolution without at the same time considering all provisions of the Sugar Act which should be amended this year.

SUGARCANE BORER INFESTATION AND LOSS IN LOUISIANA

Leon J. Charpentier, W. J. McCormick, R. Mathes, and J. W. Sanford,
Entomology Research Division, Agric. Res. Serv., U. S. D. A.

The winters of 1961-62 and 1962-63 were the coldest since the 1890's in the Sugarcane Belt of Louisiana. Several days with minimum temperatures of freezing or below, including some with minimum temperatures of 12° and 14° F., were recorded at the Houma Station for the respective winters. Studies indicated that temperatures have a marked effect on the winter survival of the sugarcane borer. *(Diatraea saccharalis* (Fabricius)). Very low temperatures are more important than number of days with freezing temperatures. Survival rates are significantly much lower at 18° and below than at 23° and above.[1] Examinations of cane trash left in the fields during harvesting to determine effect of the severe temperatures on the overwintering borer populations showed a

Table 1. First-generation sugarcane borer deadheart counts in Louisiana, May 28-June 12, 1963.

Parish	No. of fields examined	Total number of deadhearts	Average per acre
St. John	5	112	1120
St. Charles	2	33	825
Ascension	4	27	338
Point Coupee	4	26	325
Assumption	11	67	305
St. Martin	2	11	275
St. James	6	24	200
Lafourche	10	34	170
St. Mary	5	16	160
Terrebonne	12	32	133
West Baton Rouge	4	8	100
Lafayette	5	2	20
Iberville	3	1	17
Totals & Avg.	73	393	269

Table 2. Sugarcane borer infestations in Louisiana during 1959, 1960, 1961, 1962, and 1963 harvest seasons.

Parish and mill	Percent joints bored in --				
	1959	1960	1961	1962	1963
Ascension					
Evan Hall	26	14	11	7	25
West Baton Rouge					
Smithfield	11	22	6	5	18
St. James					
Armant	24	23	8	7	17
St. James Co-op.	30	5	7	6	14
Iberia					
Iberia Co-op.	12	8	12	3	16
Duhe-Bourgeois	11	6	12	5	12
Lafourche					
Valentine	30	15	11	12	14
Lafourche Sugars	28	11	8	8	9
Terrebonne					
Lower Terrebonne	23	10	14	12	14
Southdown	18	13	9	5	11
Iberville					
Myrtle Grove	12	22	10	4	13
Cora-Texas	39	6	5	4	8
St. Martin					
St. John-Levert	7	15	10	3	13
St. Mary					
Oaklawn	12	9	7	7	12
Sterling	6	6	4	6	8
St. John					
San Francisco	32	13	8	7	12
Assumption					
Supreme	23	13	6	7	11
Westfield	23	12	6	6	11
Point Coupee					
Alma	9	23	12	3	9
Rapides					
Meeker	1	6	8	2	8
Lafayette					
Billeaud's	11	13	8	3	7
Vermilion					
Erath	17	11	11	4	5
Average	18	13	9	6	12

98-percent mortality in the winter of 1961-62[2] and 96-percent in that of 1962-63.[3]

Spring examinations to determine populations of the first-generation borers were made during the period May 28-June 12, 1963. The examinations consisted of determining the number of borer-killed deadhearted plants in one 1/50-acre single-row sample in each of 73 stubble fields scattered in 13 of the 18 sugarcane-producing parishes. These counts indicated an estimated average of 269 borer-killed plants per acre (table 1). Counts obtained in 1962, 1960, and 1959 averaged 38, 950, and 1350, respectively.[3]

Harvesttime surveys to determine the degree of borer infestations and crop losses caused by this insect have been conducted annually in Louisiana since 1935. From that year through 1960, the surveys have been conducted cooperatively by the entomologists of the USDA Sugarcane Experiment Station and the Louisiana Agricultural Experiment Station. The yearly infestations ranged from 5 to 28 percent, with an average of 16 percent of the joints bored for the 28-year period 1935-62.

From 1935 through 1957 the examinations were made on the same ten plantations, each being representative of a surrounding area producing one-tenth of the sugar yield for the State. Beginning in the 1958 harvest season the surveys were conducted at the mill stock piles.

The 1963 survey was conducted at the same mills surveyed in the past 2 years and consisted of two examinations of 100 stalks each at 22 mills located in 15 of the 18 sugarcane-producing parishes. Infestation counts consisted of percentage of joints (internodes) bored as determined from total number and total externally bored joints for twenty 5-stalk samples for each examination and mill.

The first examination was conducted during October 28-November 12 and the second, December 2-12. It is logical to assume that the first examination consisted mainly of stubble and the second of plant cane. The second examination showed a higher infestation than the first examination, ranging from 1 to 13 percent, at 14 of the 22 mills. The infestation was from 1 to 10 percent lower than at the first examination at 7 mills and the same at 1 mill. Average percentages of joints bored were 11.08 and 13.02, respectively, ranging from 5 to 26 percent at the different mills, with an average of 12 percent for the two examinations. The infestation in 1962 and 1961 was 6 and 9 percent for the respective years with an average of 16 percent for the 28-year period 1935-62. The percentages of joints bored at each mill in 1963, together with those for the most recent four years, are given in table 2. Compared with 1962, the infestation was higher, ranging from 1 to 18 percent, at all of the 22 mills.

The crop loss is estimated to be three-fourths of the percentage of joints bored or 9 percent for the 1963 crop as compared with 5 percent in 1962.

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[1] Mathes, Ralph, W. E. Haley, and L. J. Charpentier. 1954. Borers Surviving the Winter and Prospects for the 1954 Infestation in Louisiana. Sugar Bull., Vol. 32 (14): 216-17.

[2] Charpentier, Leon J. and Ralph Mathes. 1962. Sugarcane Borer Overwintering Population and Prospects for 1962. Sugar Bull., Vol. 40 (14): 158-59.

[3] Data collected in cooperation with Louisiana Agricultural Experiment Station Entomologists.

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IN THE FIELD WITH LLOYD L. LAUDEN

by Lloyd L. Lauden

Crop Condition

In spite of the cold wet winter both stubble pieces and plant cane seed pieces still appear to be fairly sound. There is still a good chance that stands will be good. What is needed now is plenty of sunshine, and warm dry weather. This condition would do much to help stands.

There has been a considerable amount of shaving done throughout the belt during the last two weeks to both plant cane and stubble cane. Many growers have shaved fields to clean off the poor job left by the harvester. A few growers began barring off last week. This was being done only on the well drained lands. Many fields were still too muddy last week for any type of work. Ruts were still holding water.

On the subject of drainage, growers shoud find it interesting to visit a few farms where precision grading or land smoothing has been done during the past few years. Drainage in these fields is excellent. From observation it appears that these fields were not cut by ruts as much as surrounding fields of conventional drainage. Growers will also be amazed at the almost complete absence of lateral ditches. And yet the fields drain well. The reduction in the number of ditches should help in the control of Johnson grass. Growers will hear more about this new drainage system in this column in the future. Growers will also hear more about this practice from the Soil Conservation Service and from the County Agents.

One of the easiest things a farmer can do is get in a hurry to plow, particularly after he has been waiting a long time to get started. Growers are reminded that it is foolhardy to move heavy land when it is wet. Wait until the soil is ready and the job will be easier for the remainder of the year. Haste makes waste.

Now is a good time for growers to recheck spraying equipment paying particular attention to old worn out nozzles. When nozzles are in bad condition, buy new ones. Why waste expensive chemicals? Why be satisfied with a less than desirable job? Chemicals are very expensive when used poorly. They are worth much more when used properly particularly when good grass control is received. Good grass control usually means more tons of cane per acre. Growers should plan the chemical weed control program to get the most for the dollar spent. This takes time but it is worth it.

Growers should still hold on to the stubble acreage planned to be destroyed. Wait until stands show. Some stubble fields examined by the writer and others can go either way, good or bad stands. Remember there is some talk about acreage restrictions in 1965.

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(1) TABLE 1. - Effective Minimum Wage Rates for Harvest and Production and Cultivation Work

Class of worker or operation (2)	Beginning of harvest through October 17, 1963 (1)	October 18 through November 3, 1963 (2)	November 4, 1963 until completion of harvest (3) (4)	
HARVEST WORK (Hourly Rates)	Rate per hour			
A	$ .90	$1.395	$1.424	$1.05 (5)
B	.85	1.345	1.330	1.00
C	.80	1.295	1.280	.95
D	.75	1.245	1.186	.90
E	.70	1.195	1.136	.85
(Piecework Rates)	Rate per ton			
F	$1.10	$1.35	$1.35	
G	1.30	1.55	1.55	

PRODUCTION & CULTIVATION WORK	January 1 - December 31, 1963	January 1, 1964 until amended
(Hourly Rates)	Rate per hour	
H	$.80	$.95
I	.70	.85

TABLE 2. - Effective Wage Rates for Harvest Work Performed After November 3, 1963

(This table is to be used only when settlement for cane marketed after November 3, 1963, was on a weekly average price basis or a combination of weekly average and season's average price).

Average price of sugar	Class of Worker or Operation (2)				
	A	B	C	D	E
Cents per lb.	Minimum Hourly Rates for Work Performed				
8.3	$1.322	$1.240	$1.190	$1.108	$1.058
8.4	1.339	1.255	1.205	1.121	1.071
8.5	1.356	1.270	1.220	1.134	1.084
8.6	1.373	1.285	1.235	1.147	1.097
8.7	1.390	1.300	1.250	1.160	1.110
8.8	1.407	1.315	1.265	1.173	1.123
8.9	1.424	1.330	1.280	1.186	1.136
9.0	1.441	1.345	1.295	1.199	1.149
9.1 and over	1.450	1.350	1.300	1.200	1.150

Computing Average Price:

For producers who market sugarcane on a weekly average price basis, it is the simple average of the weekly average prices for raw sugar for the weeks such producer's sugarcane was marketed. (Drop all hundredths).

For producers who market sugarcane on the basis of both the season's average price and the weekly average price, it is the weighted average of the season's average price and the simple average of weekly average prices. (Drop all hundredths).

(1) To be used when settlement for sugarcane was made on the basis of the season's average price or when there was salvage or frozen sugarcane marketed from a farm. Use also in all cases for production and cultivation work.

(2) Class of Worker or Operation:

A. Operators of mechanical loading or harvesting equipment.

B. Tractor drivers, truck drivers, and harvester bottom blade operators.

C. Loaders, spotters, ropemen, grabmen, and teamsters.

D. Cutters, toppers, strippers, scrappers behind loaders, cutters and loaders, pilers, and hoist operators.

E. All other harvesting workers.

F. Cutting top and bottom of large barrel varieties.

G. Cutting top and bottom of small barrel varieties.

H. Tractor drivers.

I. All other production and cultivation workers.

(3) Use Table 2 for work performed after November 3, 1963, if settlement for sugarcane during this period was made on a weekly average price basis or a combination of weekly average and season's average price.

(4) Rates in column (3) may be reduced for a farm on which there was (a) salvage cane, (b) frozen cane to which acidity deductions have been applied, or (c) frozen cane processed on a toll basis. To compute these reduced rates proceed as follows:

A. Determine the percentage that salvage or frozen sugarcane is to the total cane harvested from the farm. Subtract it from 100.00.	Assume - 65 percent of total sugarcane was frozen or classified as salvage. 100.00 - 65.00 = 35.00
B. Subtract the rate in column (4) for the operation performed from the rate for the same operation shown in column (3).	\$ 1.424 - assume operation is -1.050 in Class A \$ .374
C. Multiply the percentage (obtained in A) by the difference in wage rates (obtained in B).	35% × \$.374 = \$ .131
D. Add the result obtained in C to the rate shown in column (4) for the operation performed (rate deducted in B).	\$ .131 1.050 \$ 1.181 minimum hourly rate

(5) Rates in column (4) apply as minimum rates only when:

A. A worker is employed for harvest work on an individual farm for less than 54 hours.

B. The producer's 1963-crop sugar production per planted acre was less than 90 percent of the simple average yields of sugar per acre for those years there were planted acres on the farm during the crop years 1958-62. The reduced yield must have been the result of damage caused by natural disaster or climatic conditions.

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THE SUGAR BULLETIN

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
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Lloyd L. Lauden, Agronomist and Field Representative

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UP FRONT WITH THE LEAGUE

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by A. W. Dykers

Exchange Holds Annual Meeting

The Annual Meeting of the Louisiana Sugar Exchange was held March 25th, in room 300 of the Whitney Building, New Orleans, beginning at 11:00 A. M., and Mr. H. C. Vaccaro, of New Orleans, who is Vice-President of Southdown, Inc., was re-elected President of the Exchange. Also re-elected at the Annual Meeting were Irving Legendre, of Thibodaux, 1st Vice-President, Thomas H. Allen, Franklin, La., 2nd Vice-President, Samuel H. Livaudais, Jr., New Orleans, 3rd Vice-President, Chas. A. Levy, New Orleans, Treasurer, and Andrew W. Dykers, New Orleans, Executive-Secretary.

Elected to two year terms on the Board of Directors of the Exchange were T. M. Barker, Lockport, La., Gerard Ascher, F. Evans Farwell, Robert Frazer, Ed. J. Garland, Louis P. LeBourgeois, Samuel H. Livaudais, Jr., and S. J. Menard, all of New Orleans; Harold J. Saufley, of New York City, Chas. C. Sovoie, of Belle Rose, La., John Thibaut, of Napoleonville, La., P. Chauvin Wilkinson, of Port Allen, La. and H. L. Williams, of Sugarland, Texas.

The gentlemen listed above will serve this year with Thomas H. Allen, of Franklin, La., P. L. Billeaud, of Broussard, La., W. S. Chadwick, R. M. Cockburn, J. D. Holdereth, Chas. F. Gibbins, John B. Levert, Chas. A. Levy, and H. C. Vaccaro, all of New Orleans, F. A. Graugnard, Jr., of St. James, La., Irving Legendre, of Thibodaux, La., J. J. Munson, of Houma, La., and James H. Thibaut, of Donaldsonville, La. all of whom were elected at the Annual Meeting of the Exchange last year to serve on the Board of Directors for two years.

President's Speech

Beginning on page 158 of this issue, we are printing the talk that Mr. Vaccaro made to the members who attended the Annual Meeting of the Exchange. We want to particularly call attention to his remarks on page 159 about the advisability of having sufficient storage space to assure the orderly marketing of Louisiana sugar this year, and in the years to come.

By way of explanation, for a great many years the refiners were able and willing to accept delivery of Louisiana raw sugar as fast as it could be produced and shipped. Two new conditions are having the effect of reducing the speed with which refiners can take Louisiana raws. They are (1) displacement of cane refined sugar by beet sugar in certain markets and (2) shipments of Florida raws to Louisiana refiners. To further accentuate this problem, Louisiana crops are larger than formerly.

It is obvious that unless there is adequate storage space to make it unnecessary to force Louisiana raw sugar on the market, the industry is going to run into selling difficulties. A reduced price for raw sugar means a reduced price for cane.

(Continued on page 160)

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

1964 Crop Off To Slow Start

It is the first of April and most growers feel they are behind in their work. However, from the standpoint of growth, most growers will also agree that this crop is about two and a half weeks behind last year's crop. Cool, cloudy, and wet weather have delayed the crop. Many growers will remember the freezes of March 23rd through March 26th, 1955, when the cane was killed to the ground all over the belt. The crop that year came back to produce 24.4 net tons of cane per acre. The 1955 cane yield per acre was the highest since 1904. However, since 1955 Louisiana has produced two better crops than the 1955 crop from the net tons of cane per acre standpoint, and those were the 1961 and 1963 crops.

Plant cane stands are very good generally throughout the belt. Some stubble cane is very good and some is still very slow. There is some acreage here and there of second year stubble, particularly N. Co. 310, that is very questionable but, in general, most of this has a chance of making an acceptable stand. Several growers are planning to keep additional acreage this year particularly where stubble cane stands are good and pasture land or land to be cleared is available for this year's planting.

With the exception of C. P. 58-48, one of the three varieties transferred to the Secondary Stations and heat-treated last year, most cane varieties which were heat-treated are coming up to a fair stand generally around the belt. Two other new unreleased varieties, C. P. 59-43 and L. 60-1 withstood the heat treatment and will probably make satisfactory stands.

C. P. 55-30 is making exceptionally good stands both in plant and in stubble cane in all areas. Growers are reminded that C. P. 55-30 like C. P. 52-68 and C. P. 44-101, is susceptible to mosaic and growers must rogue this cane like C. P. 44-101, C. P. 52-68, and other varieties. Remember that the disease does not spread as rapidly in C. P. 55-30 as C. P. 44-101 and in C. P. 52-68 but the disease does more harm in C. P. 55-30. Growers should check the C. P. 55-30 plots carefully for mosaic disease during the first year when only a small amount of cane is to be rogued. More time can be given to these special seed plots.

Growers are again reminded not to cultivate heavy soils during wet periods. It is also very difficult to do a proper job of applying Anhydrous Ammonia fertilizer in heavy wet soil or in badly cloddy soil. Although it is difficult for growers to wait for good weather, it is usually wise to wait.

Growers are also reminded that some of the cold sandy land stubble cane that has not yet made a stand has good eyes but, because of the coldness of sand, many of the lower eyes have not yet germinated. It is advisable to wait on these fields. Many of the fields will make good stands when warm dry weather prevails. Don't be in a hurry!

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The following quoted letters may e of interest to the mainland cane ugar producers and processors:

Mr. Tom O. Murphy, Director
ugar Policy Staff, ASCS
. S. Department of Agriculture
Vashington, D. C.

ear Mr. Murphy:

"The mainland cane area wishes o acknowledge that the Department f Agriculture officials have succeeded in keeping the price of sugar in ne United States below the world arket price. The success of that effort has actually resulted in a marked reak in prices in the world as well as the United States. In view of increased costs, no further price reduction should be sought.

"We believe the administrators ave been so absorbed with the price tuation that attention to other dues under the Act has been delayed. Ve respectfully suggest that acreage controls should be reinstated for 965 in the mainland cane area. The resent acreage in the ground should e approved for history purposes and n early announcement made that o further planting will be recogized.

"The production of sugar from the 964-65 crop should be protected nce the Administration urgently requested it for their price-lowering ampaign. Therefore, we believe the ugar Act should be amended to give ainland cane a basic quota sufficient to cover the estimated production from that crop and a generous share of the annual growth in consumption.

"It appears that there will not be a joint proposal from the domestic industry this year so the position on Sugar Act changes to be taken by the Administration will be more important than usual. We seek your endorsement of this statement, and your acknowledgment that no further price reduction efforts need be made by you.

Sincerely yours,
Josiah Ferris"

"Mr. Josiah Ferris, Vice President
American Sugar Cane League
Union Trust Building
Washington, D. C.

Dear Mr. Ferris:

"This will acknowledge your letter of March 11, which you handed to me during the meeting with representatives of the mainland sugarcane area that day. As I recall it, you indicated that you were submitting the letter for the record and did not necessarily expect a written reply. However, I do want to reply and to apologize for the delay.

"I think we had a good meeting on that day and a rather full exchange of ideas and the related considerations on the matter of acreage allotments which you deal with in the second paragraph of your letter.

"We appreciate having before us the legislative position of the American Sugar Cane League but as you know, the Administration has recommended to the Congress that marketings of domestic sugar in 1964 not be

(Continued on page 160)

ADDRESS BY MR. HERBERT C. VACCARO, PRESIDENT OF THE LOUISIANA SUGAR EXCHANGE, AT THE ANNUAL MEETING OF THE EXCHANGE

Members of the Louisiana Sugar Exchange and distinguished guests...

When, one year ago, the Board of Directors of the Exchange paid me the honor of electing me your President, little did I realize what an eventful year we would experience in this great and fascinating Industry of ours.

Most noteworthy of comment is the manner in which Louisiana has met the challenge of the need for increased sugar production. The outturn from the 1963 crop of approximately 760,000 tons of sugar, having a value of nearly $158,000,000, was the largest in the history of the Industry, exceeding the previous record of 650,000 tons, established in 1961, by 110,000 tons. The record production was derived from approximately 9,000,000 tons of sugar cane, having a value of nearly $101,000,000, delivered to the State's 46 raw sugar factories by 5,500 cane growers.

Since the Cuban debacle of four years ago Louisiana's yearly sugar production has averaged approximately 588,000 tons. As comparison, the ten crops prior to 1960 averaged 432,000 tons and the ten crops prior to 1950 averaged 359,000 tons.

To what and to whom do we credit these gratifying results? First and foremost, we should join together in giving an accolade to those dedicated stalwarts, many of whom have passed on, whose vision and foresight, whose struggle against seemingly overwhelming odds and whose ever-enduring fortitude kept this Industry of ours moving ahead. They made it possible for the Industry to have the wherewithal to meet the call for increased production and, with the removal of acreage restrictions, to produce record crops.

Secondly, credit should be given to the many blessings received during the planting, cultivation and harvesting of the 1963 crop. Excellent se cane and ideal weather conditio during the late summer and ear fall of 1962 gave forecasts of a bett than average plant cane crop. Ter peratures in January were borde line. Just a few degrees lower wou undoubtedly have caused conside able damage. Favorable sprir weather helped the crop through a early summer drought which, had lasted much longer, could have cause irreparable damage. Weather cond tions during the balance of the sun mer and early fall were satisfactor

The first month of harvesting wa conducted under ideal conditions, a though there was some disappoin ment in the yield of sugar per ton c cane. Then, from all appearances, th blessings terminated. On Nov. 9t heavy rainfall and strong winds flat tened practically all standing cane This greatly reduced the efficiency o the mechanical harvesters, and fo the first time in years cane cutter had to be recruited with great hast and at considerable cost. The battl of nerves was on. Commencing i mid-December conditions were fur ther aggravated by temperature below freezing and by above norma rainfall. Some were fortunate an lost very little cane, but others were not so fortunate. Had Louisiana no suffered those adversities during the last two months of harvesting, sugar production could have approached 800,000 tons. However, a production of 760,000 tons is something fo which we should all be thankful and proud.

Prices for raw sugar throughout 1963 remained at higher than previous levels. The yearly average price duty paid basis at New York, for 1963 8.189c per pound as compared to 6.452c in 1962, 6.293c in 1961 and 6.297c in 1960. The yearly fluctuation in 1963 was 6.70c per pound as

compared to .30c in 1962, .54c in 1961 and .85c in 1960. The high for 1963 was 13.20c per pound, quoted on May 22 and 23, and the low was 6.50c per pound, quoted August 13 through August 28.

The average of the quotations of the Louisiana Sugar Exchange during the 1963-64 pricing period, October 4 through February 27, was 8.9952c per pound. This compares with 6.5784c, 6.3153c and 6.4828c per pound during the three previous price periods. Fluctuations during the past four pricing periods were 2.60c per pound in 1963-64, .57c in 1962-63, .38c in 1961-62 and .16c in 1960-61. The high for 1963-64 was 10.48c per pound, quoted on October 24, and the low 7.88c, quoted on February 6 and 7.

Prices for blackstrap molasses experienced a steady decline during the 1963-64 pricing period, from 22c per gallon at the beginning of the period to 17c at the end of the period. The average price for the period was 18.6008c per gallon as compared to average prices of 18.3567c, 12.0694c and 13.0843c during the previous three pricing periods. Fluctuations in blackstrap prices during the past four pricing periods were 5c per gallon in 1963-64, 8c in 1962-63, 1c in 1961-62 and 2c in 1960-61.

During the 1963-64 pricing period the Raw Sugar Quotations Committee was composed of Messrs. F. Evans Farwell, Chairman, Thomas H. Allen, Gerard Ascher, Walter Bentz, William S. Chadwick, Robert M. Cockburn, Robert Fraser, J. C. LeBourgeois, Jr., John B. Levert, Charles A. Levy, S. H. Livaudais, Jr., S. J. Menard, W. M. Rodi and James H. Thibaut. Messrs. Charles F. Gibbins, Chairman, William S. Chadwick, Bascom Doyle, Lester Gerard, F. Evans Farwell, Louis P. LeBourgeois, John Manard, and S. J. Menard served on the Blackstrap Molasses Quotations Committee. All of us owe these gentlemen, and their alternates, a debt of gratitude for a job well done. They graciously gave freely of their time and ably and efficiently served on these Committees, the functions of which are of the utmost importance to the Exchange and to our Industry.

My predecessor, Louis LeBourgeois, warned of impending marketing problems. Hastened by increased production, Louisiana faces such problems today. Being forced to move products due to lack of storage does not lend itself to prudent marketing. Practically all mills require enlarged storage facilities for raw sugar and blackstrap molasses. This can be accomplished either on a cooperative basis at centralized locations or on an individual mill basis.

Louisiana refiners are, and will continue to be, the principal outlet for Louisiana raw sugar. Aside from equalization factors, due to location of origin, etc., Refiners make their purchases either at a firm price or on some type of average price. For a Louisiana mill to consider selling on any other basis would, in my opinion, be most inadvisable and doing so would set a most unfortunate precedent. During times of wild gyrations in prices, as recently experienced, buying on an average price may not be desirable. However, during periods of stable prices such purchases can be and have been advantageous. It may become necessary for the mills to sell more raw sugar at fixed prices than heretofore and when selling on averages to vary the period on which the average is based. It follows that changes would be required in the manner in which the mills purchase sugar cane.

Present methods of marketing blackstrap molasses are in need of corrective measures, particularly the underwriting by many mills of the price at which a distributor is disposed to sell to the trade, or at retail. Such practice gives a distributor the opportunity of setting the retail price, as well as the wholesale, or mill price, and without one cent invested in inventory. In my opin-

(Continued on next page)

ion, this is not sound marketing and frankly, whether they realize it or not, the mills involved are actually creating their own competition. Serious consideration should be given by the Industry to the establishment of one, or possibly two, marketing groups, to handle the sale and distribution of Louisiana molasses. Some of my distributor friends will undoubtedly not agree with what I have said.

It is hoped that the Congress, in the enactment of sugar legislation later this year, will accord fair and impartial treatment to three of the segments of our Country's sugar industry; namely, Mainland Beets, Mainland Cane and the Refiners. Each occupies an important and irreplaceable position in the Nation's sugar picture, and any legislation should provide for the reasonable and orderly growth of all three. To build a "Frankenstein" out of any one segment would be foolhardy as well as disastrous, not only to the remaining two but primarily to our entire sugar economy.

Each year takes its toll in our membership. During the past year Bronier Thibaut, a Director of our Exchange, passed away. We will sadly miss his association, his advice and his counsel.

In closing, I express my appreciation to our Secretary, Andrew Dykers, and his staff for making my job easier, and to you for your patience.

IN WASHINGTON

(Continued from page 157)

restricted and no position has yet been developed with respect to other recommendations concerning the Sugar Act.

As to sugar prices, the Department is bound by the terms of the Sugar Act including due consideration to the price reference point in Section 201 and its efforts during the period of scarce world supplies have been directed toward obtaining supplies for consumers at prices as reasonable as possible in the circumstances.

"With best personal regards.

Sincerely yours,
(S) Tom O. Murphy
Tom O. Murphy, Director
Sugar Policy Staff"

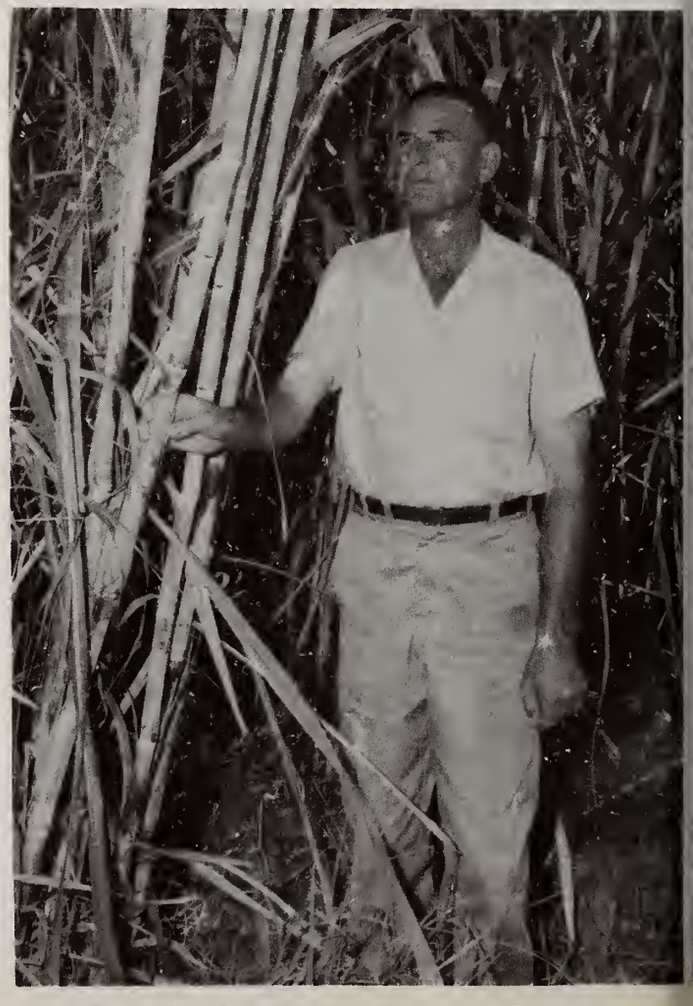
In a telephone conversation, subsequent to receipt of Mr. Murphy's letter, he explained that the intent of the wording in the third paragraph "* * no position has yet been developed with respect to other recommendations concerning the Sugar Act." had to do with legislative proposals.

—o—

UP FRONT

(Continued from page 155)

We are sure that the entire Louisiana sugar industry joins with us in extending sympathy to our good friend Josiah Ferris whose mother passed away on March 20th. Mr. Ferris is the manager of the Washington Office of the American Sugar Cane League. His mother had been with him and his wife in the environs of Washington for a number of years.



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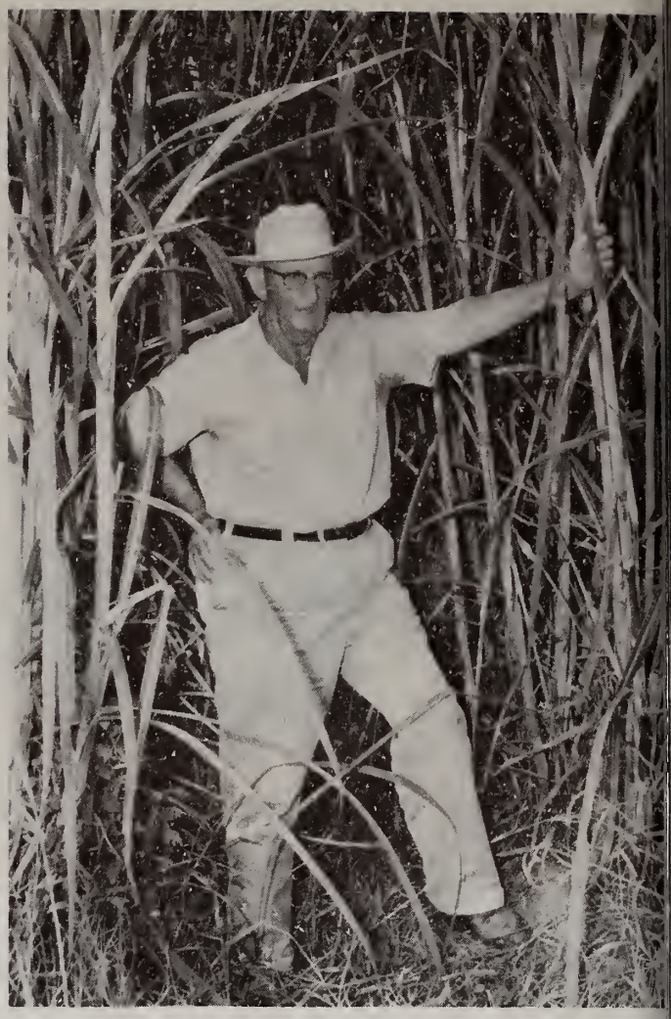

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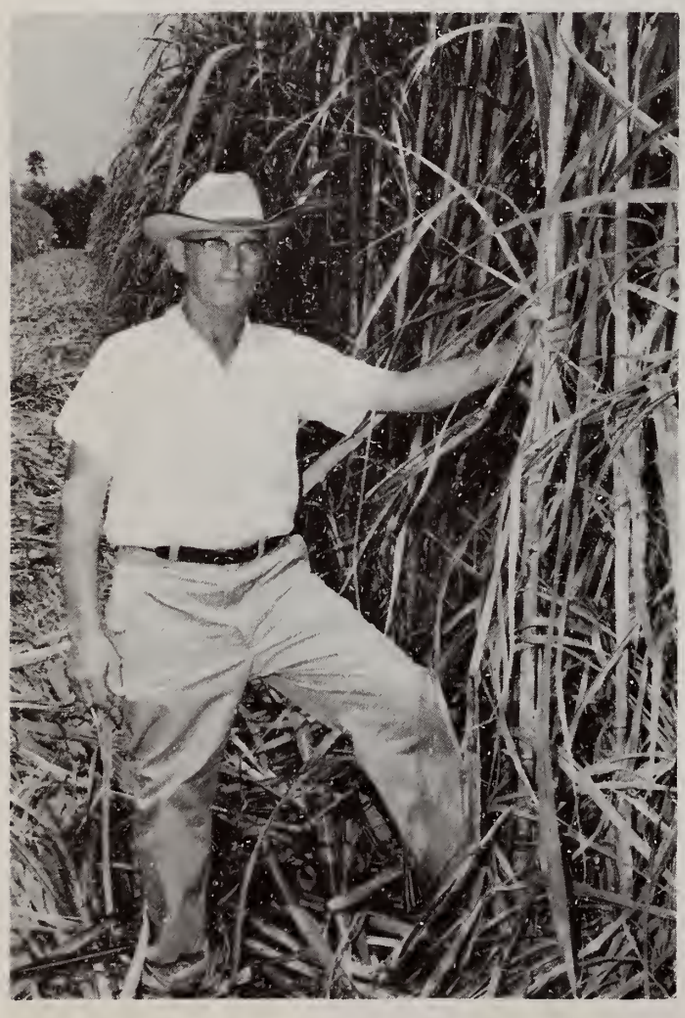

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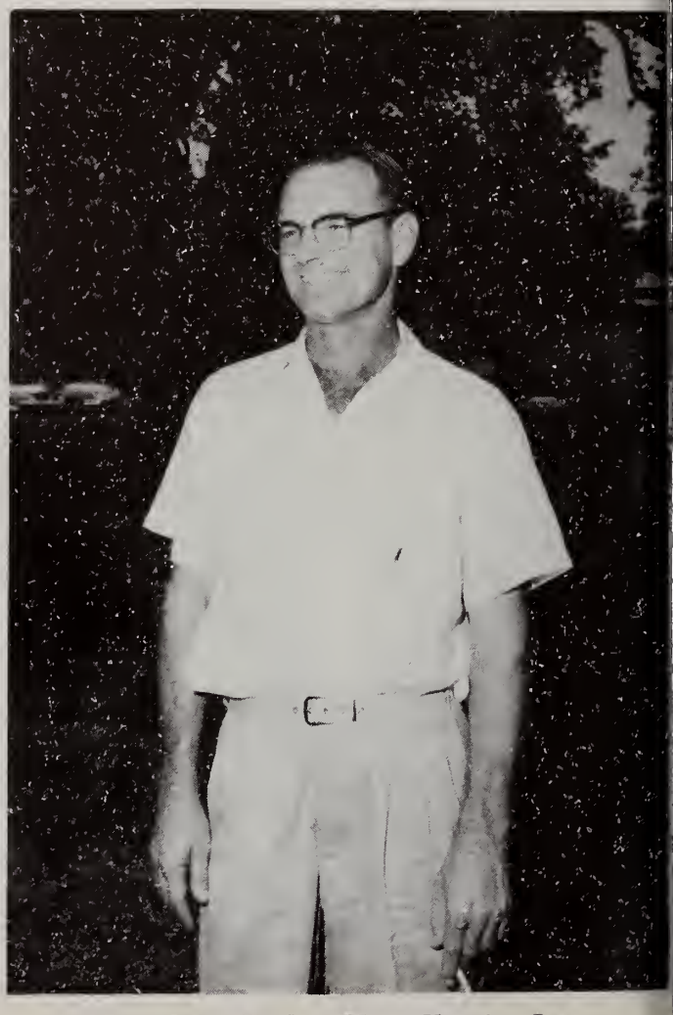

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE

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414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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UP FRONT WITH THE LEAGUE

by Gilbert Durbin (substituting for A. W. Dykers)

Rainmaking

Sugar cane growers in five Louisiana parishes are assessing themselves 0 cents per acre of cane to pay for loud-seeding from June 1 through eptember 30. They had a similar roject last year and most of them ot adequate rain. The parishes are t. Mary, Iberia, Vermilion, St. Martin, and Lafayette. The organization hrough which the growers are aranging for cloud-seeding is the South ouisiana Agricultural Improvement ssociation, Inc.

June through September covers the rincipal growing period for Louisiana cane, and a drought during that eriod always reduces yields per acre. Most growers are not equipped to irrigate and they are hopeful that cloud-eeding will prove at least a partial answer to our summer droughts.

Wage-Price Hearing

July 9 is being talked about as the late for the hearing on wages for ouisiana cane field workers and the earing on fair prices for Louisiana ane. The Grower-Processor Committee represents the industry on the ane price matter. This is not a eague committee. It is composed of seven members elected by growers and seven elected by processors. The rocessors have had their election, and we understand the growers will ave their election sometime next month.

The League does get involved in the matter of wages for field workers. The League's Economist is presently making a survey to gather facts which our Employee Relations Committee will then study before deciding on recommendations at the public hearing in July.

California Sugar Cane

A group of sugar beet growers in the Imperial County of California have formed the Imperial County Sugar Cane League. They have been experimenting with cane since 1959 and are convinced they can grow cane commercially. In fact they now have about 530 acres which they would like to use for seed cane this fall. Reinstatement of acreage controls and marketing quotas may keep them from getting into the cane business at this time.

The California farmers have found N. Co. 310 does better than any other variety they have tried. There are many varieties they have not yet tested, and this phase of their research is being expanded.

The Imperial Valley has about 500,000 acres of rich alluvial soil. The average annual rainfall is less than 2 inches at the Brawley Experiment Station. They would rather not have even that small amount. They irrigate all crops, which include vegetables, cotton, alfalfa hay, and sugar beets.

If the Imperial Valley grows cane commercially, the farmers there will have some of the same problems which Louisiana cane growers have. One is the problem of freezes. The average number of days with temperatures below freezing are 1 in November, 2 in December, 4 in January, and 4 in February. In some years they have a March freeze. The temperature in July and August reaches 118 degrees.

Proportionate Share Hearing

It is our guess that the U. S. Department of Agriculture will have a public hearing soon, maybe in May, on the subject of acreage allotments (proportionate shares) on the 1965 cane crop. It is our opinion that such allotments will be established. This, of course, will limit the planting of cane this fall.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Lack of agreement between domestic producers, cane sugar refiners and Government Departments may jeopardize the quota control sugar program. That program, based on controlled domestic production and foreign imports, is embodied in the Sugar Act of 1948, as amended. Actually the program dates back to the Jones-Costigan Act of 1934. During the intervening years the program has effectively served its purpose "to regulate commerce among the several states with the territories and possessions of the United States and with foreign countries; to protect the welfare of consumers of sugars and those engaged in the domestic sugar producing industry; to promote the export trade of the United States; and for other purposes."

Unless the various segments of the domestic sugar industry quickly resolve their differences of opinion on what amendments should or should not be made to the Sugar Act, the entire subject of sugar probably will be swept under the rug from whence it will not emerge during the current session of Congress.

A joint proposal on legislation from the domestic sugar industry would help Government officials crystallize their thinking, particularly on the foreign portions of the Sugar Act which will expire December 31 this year. When enacting the foreign provisions of the Sugar Act Congress stated its intention to review such provisions this year. Reported difference of opinion between State and Agriculture Department officials on the global quota and recapture provisions so far have prevented formulation of a Government legislative proposal other than a suggestion by Secretary of Agriculture Orville Freeman that Congress authorize him to permit unlimited marketings of sugar from domestic sources during 1964. The Freeman proposal has been violently opposed by the U. S. Cane Sugar Refiners Association.

Representative Harold Cooley of North Carolina, Chairman of the House Committee on Agriculture, where sugar legislation must originate, is reported to have said that he would not consider the Freeman proposal or any of the thirty some odd sugar bills which have been referred to his Committee until there is more unanimity of opinion among the various segments of the domestic industry. He is also reported to have said that before reviewing the foreign provisions of the Sugar Act he wanted the Government to admit that the global quota and recapture provisions had failed and a return to the country-by-country system of quotas was desirable.

Legislative proposals on commodities other than sugar have been scheduled for House Agriculture Committee consideration and, according to Chairman Cooley, his Committee probably will not be in a position to study sugar before June 1. In view of the wide area of disagreement among parties interested in sugar, the House hearings would probably require two weeks or until the middle of June. Under normal procedure the Committee would require at least a week or 10 days to mark up and report out a clean bill. That would bring the calendar up to approximately July 1. With the National Republican Convention scheduled for July 13 and the National Democratic Convention scheduled for August 24, time for sugar legislation will have "run out".

It is rumored that Congress will reconvene this fall after the election, but to long-time Congressional observers that does not seem plausible.

Sugar would still be under the rug unless during the final hours of the session Congress passed a joint reso-

(Continued on page 174)

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UPTAKE OF NITROGEN, PHOSPHORUS, POTASS UM, CALCIUM, MAGNESIUM AND SULFUR BY SUGAR CANE IN LOUISIANA IN 1963

Laron E. Golden and Ray Ricaud

The work begun in 1959 regarding amounts of the primary nutrients, nitrogen, phosphorus and potassium removed from Louisiana soils by sugar cane, has been continued annually. Similar work with the secondary nutrients, calcium and magnesium was begun in 1960 and has continued annually. Information concerning this nutrient uptake work has been published (1, 2, 3, 4).

In 1963 at harvest time about 150 pounds green weight of above-ground parts of cane were collected as samples at four locations and were analyzed for contents of the primary nutrients, nitrogen (N), phosphorus (P), potassium (K), and the secondary nutrients, calcium (Ca), magnesium (Mg) and sulfur (S). The fertilizer treatment, 120-40-80, was sampled at each location and chemical data and field yields of the treatment were used to calculate amounts of nutrient contents.

It may be noted in Table 1 that all nutrients except P and K are expressed on an elemental basis.

Data in Table 1 show that, on the average, 1.83 pound of N, 0.80 pound of P_2O_5, 3.78 pounds of K_2O, 0.23 pound of Ca, 0.40 pound of Mg and 0.54 pound of S were in each ton of clean millable cane. The amounts of nutrients leaving the fields in the harvested crop depend on the amounts of nutrients in the cane as well as the amounts of trash taken with the cane.

From the data in Table 1 it may be seen also that an average of 54 pounds of N per acre was in the clean millable cane (average yield of 29.58 tons per acre x average N content of 1.83 pounds of N per ton). The average N content of total above-ground growth was 3.93 pounds per ton of millable cane or a total of 116 pounds above-ground (29.58 x 3.93). It is obvious that an amount between the 54 pounds of N per acre in clean cane and the 116 pounds per acre total above-ground physically left the field, depending on the amount of trash.

Unpublished data obtained by the authors show that burning of cane trash results in loss of 90 per cent or more of N and little or no loss of P_2O_5 and K_2O by volatization. Use of N at the rate of 80 pounds per acre would provide N for the crop equivalent to the amount removed in the cane and trash and that normally lost by burning of trash from a 30-ton per acre crop. However, for the farmer to attempt to maintain a balance between N added to the soil and N lost from the soil, consideration needs to be given to possible gain of N in the soil from innoculated legume cover crops, from fixation of N in the soil by nonsymbiotic organisms and from N in rainfall and to possible loss of N from the soil due to leaching, runoff and oxidation and reduction processes resulting from biological activity in the soil.

Previous work (4) shows that there is an amount of about 15% as much nutrients in stubble and roots of cane in Louisiana at harvest as in above-ground parts. When this amount is added to the above-ground content it may be seen that an average amount of 134 pounds of N per acre or 4.52 pounds of N per ton of millable cane was in all plant parts at harvest.

The amounts of P_2O_5 leaving the fields each year (about one pound in each ton of cane and trash) appear not to be great when compared with amounts of N and K_2O in the cane. However, when the amounts of removal of P_2O_5 are compared with total amounts of P_2O_5 in soils of Louisiana on which sugar cane is

Table 1. The N, P, K, Ca, Mg & S contents of sugar cane[1] in Louisiana in 1963.

Location, Soil Type and Variety	Cane Yield	Total above-ground nutrient content											
		N		P_2O_5		K_2O		Ca		Mg		S	
		Millable Cane	Total Growth	Millable Cane	Total Growth	Millable Cane	Total Growth	Millable Cane	Total Growth	Millable Cane	Total Growth	Millable Cane	Total Growth
	Tons/A	Lbs/Ton	Lbs/Ton[2]	Lbs/Ton	Lbs/Ton[2]	Lbs/Ton	Lbs/Ton[2]	Lbs/Ton	Lbs/Ton[2]	Lbs/Ton	Lbs/Ton[2]	Lbs/Ton	Lbs/Ton[2]
Smithfield Mhoon sil C.P. 48-103 1st stubble	26.07	2.56	4.25	0.79	1.16	5.11	7.60	0.22	1.44	0.40	1.31	0.40	0.72
Alice B Baldwin sil N.Co. 310 1st stubble	39.20	1.18	3.40	0.71	1.36	2.83	5.68	0.21	1.71	0.41	1.12	0.75	1.17
M.A. Patout and Son Jeanerette sil C.P. 62-68 1st stubble	32.05	1.90	3.75	1.20	1.75	3.31	5.67	0.30	2.00	0.36	0.78	0.55	0.84
Young's Industries Richland sil C.P. 44-101 Plant	21.00	1.67	4.32	0.48	1.07	3.86	7.14	0.18	1.21	0.38	0.96	0.47	0.73
Averages:	29.58	1.83	3.93	0.80	1.34	3.78	6.52	0.23	1.59	0.40	1.04	0.54	0.87

[1] Sugar cane sampled received a 120-40-80 fertilizer treatment.

[2] Total growth content is expressed as lbs/ton of millable cane. Tops and trash content is the difference between total growth values and corresponding millable cane value.

grown, it is found that the rate of depletion of soil phosphorus is fairly high if no P_2O_5 is added in fertilizers.

The amounts of K_2O leaving the fields each year (from 3 to 6 pounds depending on available soil K and fertilizer applied) are generally in excess of amounts applied in fertilizers in Louisiana. A 30-ton per acre crop would remove from 90 to 180 pounds of K_2O per acre in cane and trash. In addition, soluble salts of K in ashes and from growing cane plants are subject to loss by leaching and in runoff water. Most field applications of K_2O to cane in Louisiana range from 40 to 80 pounds per acre. However, it has not been demonstrated with field experiments that consistently profitable increases in cane yield can be obtained with rates of K_2O in fertilizers in excess of 80 pounds per acre.

When the amounts of removal of K_2O by cane are compared with total amounts of K_2O in Louisiana soils it is found that the rate of depletion is not a serious problem.

Ca and Mg are present in most soils of Louisiana on which sugar cane is grown in amounts far in excess of minimum amounts considered nutritionally necessary for good cane growth. In cases, however, where the pH of soils is low application of agricultural lime is considered desirable to improve the general fertility status of the soil by its effect on several physical, chemical and biological factors as well as to supply Ca and Mg as nutrients for the cane crop if needed.

Where high amounts of Ca and Mg exist in soils or where they are supplied in agricultural lime, relatively higher amounts are absorbed by the cane crop but there appears to be no detrimental effect or imbalance of nutrient uptake created by high amounts of Ca and Mg in Louisiana soils.

In Table 1 it may be noted that an average of 0.54 pound of S was in each ton of millable cane. Futher examination of the table also reveals that the amounts of Ca (0.23 lbs./ton), Mg (0.40 lbs./ton) and P (43% of P_2O_5 is P or 0.80 x 0.43 = 0.34 lbs./ton) in each ton of millable cane were less than the S content.

Studies with fertilizers containing S as a variable and of S contents of Louisiana soils on which sugar cane is grown have not been extensively made for several valid reasons. (1) S in rainfall has been considered to be relatively high. (2) Soils in the area and similar soils in other areas which have been analyzed for S content have not indicated S to be generally low. (3) Where superphosphate has been used or where mixed fertilizers of relatively low analysis have been used, S has been supplied.

During the three-year period, 1961 through 1963, average yields from seven field experiments in which liquid 120-40-80 was compared with solid 120-40-80 revealed no significant difference. The principal difference between the two treatments other than the physical nature was S. The liquid fertilizers contained very little S whereas the solid fertilizers contained superphosphate as the source of P_2O_5. Superphosphate normally contains more S than P. At O'Neil Plantation in 1963 cane plant analysis revealed for the June sampling an average increase in S content due to superphosphate treatment of 14 percent whereas, average increase in P content due to superphosphate was only 7 per cent.

The present practice of use of complete fertilizers in liquid form for sugar cane in Louisiana, suggests that experiments with liquid fertilizers versus solid fertilizers should be continued and that areas where previous high responses to superphosphate have been obtained should be re-examined by use of experiments containing different sources of P as well as different sources of S.

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(Continued on page 174)

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IN THE FIELD WITH LLOYD L. LAUDEN

by Lloyd L. Lauden

Attack On Endrin

Endrin has received it's share of publicity in the past few weeks. Unfortunately, the publicity is not good.

The report that Mississippi River water contained very small quantities or traces of Endrin, Aldrin, and Dieldrin coupled with the report that fish were dying in the lower Mississippi River caused the U.S.D.A. to schedule a public hearing for the purpose of enabling all interested parties to present evidence as to whether the registration of these chemicals should be canceled or modified. If the registration were canceled this would mean Endrin could not be used.

The first session of this hearing was held in Washington, D. C. on April 9, 1964. A second session is scheduled for Memphis, Tennessee on April 16, 1964. A third session is now scheduled for Baton Rouge on April 23, 1964. Endrin has been the best and most effective control measure against the sugar cane borer, and because of the possibility that its use on sugar cane may be prohibited, the League will present both an oral and a written statement in support of the continued use of Endrin at the public hearing.

The statement will show the value of the Louisiana sugar cane crop, the number of farmers, as well as the number of workers employed in the industry. It will show yield increases as result of the use of endrin. It will contain statements from many of the County Agents as well as research workers of both the L.S.U. Experiment Station and the U.S.D.A. Houma Station. It will point out and prove beyond any doubt that the Endrin used in the control of the sugar cane borer in Louisiana is not now or has not been at any other time responsible for the death of fish in the Lower Mississippi River. It will further show evidence from both State and Federal authorities that virtually no drainage run-off from Louisiana lands goes into the Mississippi River.

Growers will be pleased to learn that Dr. Dale Newson, Head of the Department of Entomology at L.S.U., is doing everything in his power to see that agriculture and sugar cane is not denied the use of this excellent insecticide. He has already testified in Washington, D. C. and he will probably further support his earlier statement with additional evidence at the Baton Rouge session of the hearing.

Representatives of other crops will also testify in support of the continued use of these insecticides. The removal of the use of these insecticides will mean a loss to agriculture. It is sincerely hoped that the U.S.D.A. will not cancel or modify the registration of Endrin.

The public hearing will be held in the Hill Memorial Building on the L.S.U. Campus, in Baton Rouge, Louisiana beginning at 9:30 in the morning, Thursday, April 23, 1964.

—o—

IN WASHINGTON

(Continued from page 168)

lution extending the foreign provisions of the Sugar Act for another 12 months with the further and more remote possibility of another joint resolution permitting the continental beet and cane areas unrestricted marketings for 1964.

Frankly there are too many ifs and the biggest "if" of all is IF Congress does not act on sugar this year, it could well be the beginning of the end of the quota system of sugar control.

—o—

UPTAKE

(Continued from page 172)

2. Golden, Laron E. Nutrient uptake by sugar cane in Louisiana. Sug. J. Vol. 23. No. 11:22-24. 1961.
3. Golden, Laron E. Plant nutrients uptake by sugar cane in Louisiana. Sug. J. Vol. 22, No. 11:21-22. 1960.
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in the interests of the Domestic Sugar Cane Industry

THE

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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IN THE FIELD WITH LLOYD L. LAUDEN

by Lloyd L. Lauden

Time to Control Mosaic Disease

It is now easy to recognize Mosaic disease in all areas of the belt and it's time to start the roguing program.

Growers are reminded that the three leading varieties, C.P. 52-68, C.P. 44-101 and N. Co. 310 are susceptible to Mosaic disease. Experiments have proven beyond any doubt that yields are materially reduced by this disease. Growers are also reminded that the variety C.P. 55-30 released last year is a very good cane but it is also susceptible to Mosaic disease. Growers should rogue this new cane with special care in the small plots this year. Although the disease does not usually spread as rapidly in C.P. 55-30 as in the three major varieties the disease does more damage to this cane once it has entered the plant.

Growers who have not yet put in a roguing program should start one this year. County Agents have held "Mosaic Clinics" and they are willing to work with growers on this matter again this year. There is nothing mysterious about recognizing this disease. Once trained, any conscientious field worker with good eyesight can do a very satisfactory job with the program. It should be pointed out that a hurry-up job is rarely good. Workers should rogue one row at a time, and growers should spot check the work occasionally to be sure of the quality of the job.

Occasionally a grower will become somewhat discouraged because plant cane from properly rogued seed plots of the previous year will show a considerable amount of Mosaic in the spring. This can, and sometimes does, happen but growers should continue the program. This does not happen too often and the amount of Mosaic on the farm would be far worse were it not for the roguing program.

Spot Spraying where Johnson Grass is heavy at Smithfield Plantation

Johnson Grass

Although the fields are fairly clean generally throughout the belt there are a few areas where Johnson Grass has made some headway. Growers who used Fenac last year are braging about the small amount of grass in their stubble fields. Mr. F. Evans Farwell of Milliken and Farwell credits their clean fields to the use of a spot spray system put into effect several years ago. Mr. Louis Arceneaux of Smithfield Plantation near Port Allen, Louisiana, Mr. Maurice Eliser of Waterford Plantation at Killona, Louisiana, and Mr. Irving Arceneaux of Little Texas Plantation at Napoleonville, Louisiana, all agree that the use of Dalapon in the spot

(Continued on next page)

Workers riding while Spot Spraying where Johnson Grass is not heavy

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Stop Fussin', Fightin' and Feudin'

House griculture Committee Chairman, Harold Cooley (Democrat, N. C.), again has requested certain sugar industry spokesmen to resolve their differences on new sugar legislation. Representative Cooley noted that in previous years the two opposing parties, the cane sugar refiners and beet sugar producers, have been able to come before Congress with a joint position. A joint position now, Mr. Cooley said, would be a means of avoiding a long bitter Congressional controversy.

Chairman Cooley said the Government's proposal on sugar legislation probably would be announced sometime in May. He plans, he said, to begin sugar hearings in mid-June.

With the deadline for compromises so near, the beet and cane refiners' spokesmen should cease their debating society antics and get down to serious consideration of the future of the domestic sugar industry.

Government spokesmen indicate that if the battle of words between beet and cane refiners subside before the Government's proposal on sugar legislation is sent to Congress, industry representatives will be invited to a preview of it. That procedure has been followed in past years with excellent results.

Appropriations Delayed

Senate action on the gricultural appropriation bill has been held up indefinitely because of Civil Rights. Indications are now that the end of that debate may come quickly. Compromises are being made and when the trading has been completed it will not take many days to pass the bill as amended.

The House Committee on Education and Labor for some time now has been meeting in executive session on H. R. 9824 to amend the Fair Labor Standards Act so as to extend its provisions to additional employees. No final action has been taken yet on the proposal to eliminate some of the agricultural exemptions from the overtime provisions of the Act.

Florida Production

The last mill in Florida has completed grinding and the total unofficial production for that State is 424,129 short tons of sugar.

IN THE FIELD

spray program has materially helped in the chemical weed control program. The program is usually started in the early part of March. Pictured are two devices used to spot spray Johnson Grass on the Milliken and Farwell properties.

Nutria Control

Research workers at the Nutria Research Station at Houma, Louisiana have come up with what is believed to be a fairly good bait for the control of the nutria in cane fields. Growers who are having a nutria problem are asked to get in touch with either Mr. James Evans, P.O. Box 1451, Houma, Louisiana, or Mr. G. R. Abraham, Agriculture Center, L. S. U., Baton Rouge, Louisiana. The reasearch workers would like to work with several growers to try out this new material and their new system to control this pest.

Caution! Wash Cane Before Processing After Using Guthion

Growers are asked to read carefully the cautions regarding the use of Guthion 10% for the control of the sugar cane borer. *Cane* on which Guthion has been used *must be washed* before it is ground and processed. Growers should check with the factory before applying Guthion to be sure the mill will accept cane on which Guthion has been applied. Many mills are not equipped to wash cane. Check to be sure.

INFLUENCE OF SOIL MOISTURE AND TEMPERATURE ON YIELD OF SUGAR CANE AND RECOVERABLE SUGAR IN LOUISIANA

G. Lal and W. H. Patrick, Jr., Department of Agronomy, Louisiana Agricultural Experiment Station

This study was conducted to measure the relationship between soil moisture status and temperature during the growing season on the yield of sugarcane and recoverable sugar in Louisiana. The relationship of moisture surplus, moisture deficit, temperature and day degrees to yields of sugarcane and recoverable sugar in 13 parishes in the sugar producing area of Louisiana for a 25-year period was studied. Other factors that might affect the yield of sugarcane, such as amount of nitrogen used, extent of insect injury, etc. were also examined.

Moisture surplus or excess moisture and moisture deficit were calculated by the water balance or water budget method utilizing soil moisture storage capacity, estimated evapotranspiration, and rainfall. Evapotranspiration was estimated by the Thornthwaite method. Potential evapotranspiration was modulated to take care of variations in plant cover and available soil moisture during the growing season.

The relationship of yield to the various soil moisture and other factors was studied for both the sugarcane area as a unit and for each of the 13 sugar producing parishes. Daily temperature and precipitation records from 10 weather stations for a 25-year period were utilized in this study. Any water in excess of that held at field capacity was designated as moisture surplus. When the available soil moisture content of the root zone fell below 1.5 inches a moisture deficit was assumed. Computations of the soil moisture status on a daily basis for the 10 stations for the 25-year period were made with an IBM 1620 computer.

Results

Individual Parishes. Of all the variables examined in this study, moisture surplus had the greatest effect on sugarcane yields. The greater the moisture surplus, the lower the yield of cane. In 9 of the 13 parishes moisture surplus in inches during the early spring, March and April, was significantly related to cane yields. In the other parishes this relationship approached significance. A moisture surplus of 5-10 inches during March or April was associated with a decrease in cane yields of approximately 20 per cent. During the summer, excess moisture was not so detrimental to cane yields.

Although moisture surplus was negatively associated with the yield of cane, the amount of recoverable sugar per ton of cane appeared to have been positively associated with moisture surplus during May and June. This same relationship has been reported in Georgia for sugarcane grown for syrup. The extent of this increase was only about one-half the magnitude of the decrease in the total yield of cane caused by moisture surplus. Moisture surplus therefore appeared to have two effects: a decrease in the total yield of cane caused by moisture surplus in early spring and an increase in the recoverable sugar per ton of cane caused by moisture surplus in May and June. Overall, the net effect of moisture surplus was to decrease the amount of sugar produced per acre.

Moisture deficiency was not as closely related to cane yields or recoverable sugar as was moisture surplus. A significant correlation between yield of cane and moisture deficiency was obtained in only 2 of the

(Continued on page 185)

RECOMMENDATIONS FOR THE CONTROL OF MOSAIC DISEASE IN SUGARCANE IN LOUISIANA FOR 1964

Prepared jointly by Pathologists of the Louisiana State University Agricultural Experiment Station, Baton Rouge, Louisiana, and the United States Department of Agriculture Sugarcane Field Station, Houma, Louisiana.

Mosaic is present throughout the sugarcane district of Louisiana, although only traces of infection occur in the northern area of the cane belt.

The varieties C. P. 44-101, N. Co. 310 and C. P. 52-68, which comprise over 80 per cent of the sugarcane acreage in Louisiana, are susceptible to mosaic. The disease reduces yields of cane. In field experiments conducted over a period of 4 years comparing 100 per cent mosaic-infected with healthy seed cane, yields of cane were reduced on an average as follows: C. P. 44-101, 34 per cent; C. P. 52-68, 32 per cent; and N. Co. 310, 17.5 per cent. C. P. 55-30 is less susceptible to infection by mosaic under field conditions, but when infected will suffer even greater losses than the other varieties. Part of the loss in yields results from reduction in germination of both plant cane and stubble cane.

Mosaic is carried in seed cane that is taken from infected plants and is spread from diseased to healthy cane by aphids, or plant lice. Therefore it is important that fields to be used for seed cane be free of the disease.

The following are recommendations for control of mosaic:

1. Learn to know the symptoms of mosaic so you can identify the disease if it occurs in your fields.

2. Survey in early spring the fields you expect to use for seed. This should be done as soon as stands are well established and the leaves show no cold injury or chemical injury. This may be anytime in April or as late as May, depending on the season. Choose fields for seed where there is no mosaic, if possible.

3. If you find mosaic, determine how much is present by counting the number of mosaic stools in a total of 100 consecutive stools along the row in at least 5 places in the field; make each count in a different row and in a different part of the field.

4. If not more than 2 per cent of the plants in plant cane have mosaic, rogue the diseased plants by digging them out. In digging, remove the entire seed piece on which a diseased plant occurs. Carry these plants out and destroy them. If left in the field, they may take root and serve as sources of spreading the disease. Repeat the inspection and roguing in such seed plots through May and June at about 2-week intervals. *Alternate Roguing Suggestion*—Where adequate labor is not available or if roguing is to be done in stubble cane, the chemical, Garlon, may be used. The use of this chemical at the rate of 1 gallon to 4 gallons of diesel fuel to thoroughly wet the entire cane stool will kill the growth above ground but regrowth may occur. Retreatment during subsequent roguings is advisable.

5. If fields of any variety to be used for seed have more than 2 per cent mosaic, obtain seed cane of that variety from other sources free of mosaic.

6. Mosaic-free seed should be planted as far removed as possible from fields known to be infected with the disease.

7. If you are growing N. Co. 310 and it is highly infected with mosaic, *discontinue* planting this variety until mosaic can be reduced considerably or brought under control on your farm. Mosaic spreads more rapidly in this variety than in the other commercial varieties, and growing it where mosaic is prevalent makes it

(Continued on page 185)

RECOMMENDATIONS FOR SUGARCANE INSECT CONTROL IN 1964

W. H. Long, Associate Professor, Department of Entomology, Agricultural Experiment Station, Louisiana State University; E. A. Cancienne, Assistant Specialist (Entomology), Agricultural Extension Service, Louisiana State University

The most important pest of sugarcane in Louisiana is the sugarcane borer. Controls recommended for this insect include both the application of insecticides and certain cultural practices. Less important are wireworms, springtails, and armyworms, which may be controlled with an insecticide. The sugarcane aphid, sugarcane beetle, sugarcane mealybug and root stock weevils are occasional pests for which no controls are recommended.

Sugarcane Borer

Cultural Practices

Cultural practices in normal farming operations can be used to help reduce insect damage. The following practices are helpful but usually not sufficient to control the sugarcane borer.

1. Plant borer-free cane to improve stands the following year.
2. Break old fields and turn under trash in the fall or early spring to reduce moth emergence from trash and stubble.
3. Plant corn early and as far as possible from sugarcane to reduce borer migrations from corn to cane.

Varietal Resistance

Some varieties of sugarcane have demonstrated an ability to withstand injury better than others. However, none of our present varieties can escape economic damage for long under conditions of high borer pressure.

Yield tests have shown that the varieties C.P. 36-105 and N.Co. 310 are slightly more "resistant" than other commercial varieties. A longer period of time is frequently required for damaging infestations to develop in some varieties such as N.Co. 310 than in others.

Chemical Control

Recommended Insecticides: The following insecticides formulated on 30/60 mesh clay granules, are recommended at the rate of 15 pounds per acre per application.

ENDRIN, 2%
GUTHION, 10%
SEVIN 20%

Insecticide Resistance: A high level of resistance to ENDRIN has been found in some areas and low levels are probably widespread. GUTHION or SEVIN will control borers which are resistant to ENDRIN.

Timing Applications: It is very important that fields be checked at weekly intervals from early June through August, and that insecticides be applied only when and where potentially injurious borer infestations exist.

Insecticide applications should be made only after joints have begun to form, and whenever 5% or more of the plants are infested with young larvae feeding in or under the leaf sheath and which have not yet bored into the stalks.

The need for thorough and competent checking of fields to determine where and when to use insecticide is most acute. Field checking permits the use of insecticides in a way which will (1) prolong the useful life of new insecticides by delaying the development of resistance, (2) avoid possible adverse effects of insecticide residues in soils on crop growth, (3) reduce fish kills and adverse effects of insecticide on other wildlife, (4) reduce hazards of insecticide contamination of drinking water and (5) eliminate the unnecessary expense of applying insecticides when they are not needed.

Insecticides may be applied by airplane at any time during the day provided wind conditions are relatively calm. Marking of swaths by flagging

(Continued on next page)

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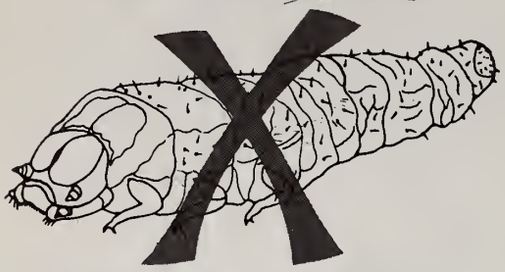

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Advantages:

De-Pester Sugar Cane Granules 10-G:

- Gives fast kill of resistant sugar cane borers.
- Requires fewer applications for effective control. Four applications do the work of six with other materials.
- Is to be applied at 14 day intervals compared to 7 days for other materials.

Contact Philips Roxane Div., Thompson-Hayward Chemical Co., New Orleans, La., P.O. Box 13155, 7700 Earhart Blvd., 866-3601; 03; 04; 05 for the location of your nearest supplier.

*Guthion is a registered trademark of Chemagro Corp.

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is essential to insure uniform coverage.

Cautions: The required intervals from last insecticide application to harvest are: ENDRIN, 45 days; GUTHION, 30 days; and SEVIN, 30 days.

ENDRIN should not be used where bagasse or tops will be fed to livestock, or where livestock will be pastured in cane fields.

GUTHION should not be applied more than 4 times in a single season, and livestock should not be grazed in GUTHION treated fields for at least 21 days after treatment. Cane should be washed before processing.

SEVIN should be used in fields where livestock are grazing or where treated plant material will be fed to livestock.

Care should be taken to prevent contamination of streams and ponds with insecticides.

Springtails and Wireworms

Soil treatment with *CHLORDANE* is recommended to control springtails and wireworms where these pests are a problem. Wireworm damage generally has been confined to sandy soil.

Apply CHLORDANE as a spray or dust on the cane seed pieces in the open furrow shortly before covering with soil. If applied as a spray, 2 pounds of technical material in at least 10 gallons of water is recommended per acre. Apply the spray in a band 12 to 16 inches wide so that all the seed pieces will be covered.

The CHLORDANE . emulsifiable concentrate is preferable to the wettable powder since it does not require agitation. *Do not use oil solution since the oil will harm the cane.* If dust is used, apply 100 pounds of a 2% dust per acre. A fertilizer distributor has been found to be satisfactory for applying dust.

Armyworms

Heavy infestations of armyworms sometimes occur on sugarcane. These may be controlled by an application of any of the insecticides recommended for the sugarcane borer or 2 pounds of TOXAPHENE per acre.

GROWER ELECTIONS

Growers throughout the sugarcane r e a are being urged by Clifford eBlanc, Chairman, to attend one of series of meetings May 13 through lay 15 to elect members of their rower-Processor Committee.

One duty of the Grower-Processor ommittee is to help present the cane ndustry's case at price hearings held nnually by the United States Depart- ient of Agriculture.

Other purposes of the beltwide eries of meetings, in addition to lection of Grower-Processor Com- ittee members, will be to acquaint ll growers with the functions of the ommittee and to discuss the organ- zation of the committee and what can do to serve the interests of the ndustry.

The grower meetings, which have een planned by the committee with he assistance of Denver T. Loupe, pecialist (Agronomy), with the Lou- siana State University Agricultural xtension Service, have been sched- led as follows:

1. At the boarding house of the leeker Sugar Co-op, at 10:30 a.m., Vednesday, May 13. Growers from voyelles, Rapides and St. Landry arishes will elect one regular mem- er of the committee and two alter- ates.

II. At the American Legion Build- ng in White Castle, at 9:30 A.M., hursday, May 14. Growers from ointe Coupee, West Baton Rouge, berville, Ascension, St. James, St. ohn and St. Charles Parishes will lect two regular and three alternate nembers.

III. At the Agricultural Building in hibodaux, at 2:00 P.M., Thursday, lay 14. Growers from Assumption, afourche and Terrebonne Parishes vill elect two regular and three al- ernate members.

IV. At the City Hall Courthouse, lain Street, in New Iberia, at 9:30 .M., Friday, May 15. Growers from t. Mary, Iberia, St. Martin, Lafayette and Vermilion Parishes will elect two regular and three alternate members.

All growers interested in their own welfare and the welfare of the sugarcane industry should be present.

———o———

MOSAIC DISEASE

(Continued from page 182)

almost impossible to control the disease.

8. On properties where there is a very high percentage of mosaic in all varieties, it is recommended that mosaic-free seed cane be obtained of the varieties C. P. 44-101, C. P. 52-68, and C. P. 48-103, NOT N. Co. 310. This recommendation is based on the fact that even though mosaic will spread into a crop grown from healthy seed cane, losses will be much less in plant and stubble than would be the case where mosaic-diseased seed cane is used.

9. Heat-treated cane for the control of Ratoon Stunting Disease (RSD) grows off faster when planted in fall. Because of this, cane is exposed to virus transmitting insects for a longer period of time thereby causing a greater spread of mosaic in the fall. Heat treating and planting of the more susceptible varieties should be done after treating and planting of the more tolerant varieties is completed. Roguing cane at least once in the fall is suggested.

———o———

INFLUENCE

(Continued from page 181)

13 parishes studied.

Higher than normal temperatures during the late winter and early spring were associated with increased yield in about one-third of the parishes. This relationship approached significance in several other parishes.

In all but three parishes, the mean temperature for August was inversely related to recoverable sugar per ton of cane. This was one of the most definite relationships establish-

(Continued on next page)

ed in this study. A high August temperature appeared to be detrimental to either the synthesis or storage of sugar in the plant.

Sugarcane Area as a Unit. A study similar to that for the individual parishes was made for the sugarcane area as a whole. The same 25-year period was covered. The results of this study are summarized in Table 1.

Table 1. Variables Correlated with Yield of Sugarcane

Variable	r
Moisture surplus—Mar. to Oct.	−.691**
Fertilizer nitrogen used	.492*
Percentage of joints damaged by borers	.390
Mean temperature for February	.335
Moisture deficit—June to Oct.	−.155

** Significant at the 1% level of probability.
* Significant at the 5% level of probability.

Moisture surplus during the growing season significantly depressed the yield of sugarcane. Drought did not appear to be an important factor in the yield of sugarcane. February temperature and borer damage just missed significance as factors in the yield of sugarcane at the 5% level of probability. Next to moisture surplus, the amount of nitrogen fertilizer used appeared to be the variable most closely associated with the yield of sugarcane. A multiple regression analysis of yield of sugarcane with both moisture surplus during the growing season and fertilizer nitrogen had a multiple correlation coefficient of .89. The close association of yield of these two factors indicate that yields could have been fairly accurately estimated for any given year from a knowledge of moisture surplus and fertilizer nitrogen used.

The most definite conclusion that can be drawn from this study is that an excess of water during the growing season was detrimental to the yield of sugarcane. For this reason, drainage appears to be more critical than irrigation as a production factor for sugarcane in Louisiana. A consideration of the physiography and the soils of the area should readily explain why this is the case. Most of the sugar cane in Louisiana is grown on the natural levees adjoining present and abandoned channels of the Mississippi River. Very little of this land has slopes as high as 1 per cent and most has considerably less than 1 per cent slope. Surface runoff is consequently slow on these soils. The cultivated area on the natural levees extends only a mile or so from the channel, where the land grades into swamp or marsh. The soils are medium to fine in texture. Montmorillonite is the predominant clay mineral. The texture and type of clay result in these soils having poor internal drainage. This poor internal drainage combined with slow surface runoff account for the detrimental effect of excess moisture on the crop.

The soils in the sugarcane area generally have available water-holding capacities which run as high as 20 per cent by weight. This high water holding capacity coupled with the high fairly well-distributed rainfall during the growing season result in a fairly low drought hazard for sugarcane grown on these alluvial soils.

Summary and Conclusions

When the results of this study are considered along with the properties of the soils in the sugarcane area of Louisiana, it is evident that surface runoff and internal drainage are important factors in the production of sugarcane. The inverse relationship between moisture surplus and yield of sugarcane illustrates the limitation imposed by these factors. The soils of this area have high water holding capacities which when combined with a fairly well distributed average rainfall of about 60 inches result in a low drought hazard. Under conditions prevalent in the area for the period of this study it appears that poor drainage is a more severe limitation to cane yields than is the lack of irrigation.

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THE SUGAR BULLETIN

42 — No. 16 MAY 15, 1964

ial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editc

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Old Mule

We suppose you have noticed it, ve certainly have; our Old Mule isn't oing too well. At this time last year .e was about to take off into orbit. 'oday he is having a hard time mov- ng any way but backwards.

There has been almost an about ace in the mental attitude of the eople who buy sugar. Last year hey were scrambling to buy every- hing in sight. Today they are sitting ack waiting for the next reduction, nd usually it comes along. The dis- ribution of sugar is far behind that f last year. During the week ending Iay 2nd distribution for the entire ountry totaled 169,103 short tons, aw value, compared with 232,774 ons during the same week last year. 'he total distribution through May nd this year was 2,690,000 tons. 'he total distribution through the ame week last year was 3,184,000 ons. When the movement of refined ugar is slow it naturally follows that aws move slowly also. If raws are orced on the market, concessions nust be made to sell them. The move- nent develops into a vicious circle vith The Old Mule caught in the niddle. We think it appropriate to oint out that a big build up in in- entories of sugar last year is respon- ible in large part for the lag in dis- ribution this year.

Storage

At the risk of repeating ourselves, his department again calls attention o the fact that, right now, both the aw and refined sugar markets are "buyers markets" and that this ondition could continue to prevail hroughout the balance of the year. Ve feel that if large quantities of ouisiana raws are forced on the mar- et this fall the results could be dis- strous.

We repeat, it is obvious that unless here is adequate storage space to nake it unnecessary to force Louisi- na raw sugar on the market this fall, the industry is going to run into selling difficulties. A reduced price for raw sugar means a reduced price for cane. This is an industry problem.

Congratulations

It is with great pleasure that we extend congratulations to Harold J. Jacobs, Sr. of Mathews, Louisiana, who received the Sugar Industries Technicians Achievement Award in Sugar Technology at the annual meeting of Sugar Industries Technicians, Inc., held in New York early this month.

Mr. Jacobs, who certainly needs no introduction to the readers of The Sugar Bulletin, is the manager of the Georgia Division of the South Coast Corporation. He is the inventor of the Jacobs Clarifier.

American Has New Manager

William F. Oliver, President of the American Sugar Company, has announced the selection of David L. Poindexter to manage the big American Sugar Refinery at Arabi, Louisiana. He succeeds E. W. Beck, Jr. who has been transferred to San Francisco, to head the operating department of the American Sugar Company's Spreckels Division.

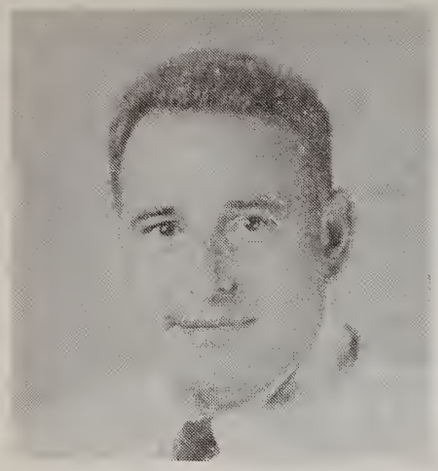
Mr. Poindexter has been the assistant refinery manager at the Chalmette plant since 1957.

E. D. Gelzer Dies

Word has been received from Dinwiddie, Va., that our old friend E. D. Gelzer has passed away.

Mr. Gelzer was with Penick & Ford, Ltd., Inc., in New Orleans for many years. He was well and favorably known to many Louisiana sugar people "as the man who did the buying of syrup and molasses for Penick & Ford." What some people, perhaps, did not know is that he was one hundred per cent for the Louisiana Sugar Industry and made no bones about it.

(Continued on page 193)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Pesticides And Agriculture

Editor's Note: Due to pressing work in the field, brought about by the time consuming Government hearing in New Orleans last week on the use of pesticides in agriculture, Mr. Lauden is not available today to write his report for this issue of *The Sugar Bulletin*. We are, therefore, printing a press release regarding his testimony at the meeting which we know will interest the readers of his very fine column.

Maggots would fill both grapefruit and oranges were it not for the use of chemical pesticides used to control the Mediterranean fruit fly, and the commercial production of many other fruits and vegetables would become almost impossible if pesticides could not be used. This information was given by Lloyd L. Lauden, American Sugar Cane League Agronomist, at a Four State Conference called by Secretary of Health, Education, and Welfare, Anthony J. Celebreeze for Tuesday, May 5, 1964 in New Orleans.

According to the League's Agronomist, it will be almost impossible to control flies, cattle grubs, and other livestock parasites without the use of pesticides. The loss of pesticides will reduce meat production and cause meat prices to skyrocket. Sweet corn would be wiped out in the South. Peaches and cherries would disappear from the market. Canned fruit juices would become almost non-existent.

Lauden claimed that human and animal food in general will suffer from the ravages of pests without pesticides. He asserted, "Worms and maggots in and on vegetables and fruits, and on the dinner table, are not a pleasant sight, but people of this nation can be sure that without the use of pesticides they will share their food with these pests, sometimes at the table, and, in addition, they will be forced to pay more for the food they eat."

The League's Agronomist said that without pesticides the nation certainly would not be as well fed, clothed, and sheltered as it is today and that the loss of pesticides would surely bring about more poverty and hunger. He pointed out that we are now the best fed people on earth and that Mr. Khrushchev would love to boast that the Russians were in this enviable position. Lauden cautioned that any action taken be checked and double checked before a decision is made to do away with our most effective tool of agricultural production. He said that the loss of pesticides to agriculture would surely bring about the rapid deterioration of our coveted number one position as the best fed people on the face of of the globe.

The League's spokesman requested that the U. S. Public Health Service undertake an extensive survey and study program to determine all the facts regarding pesticides before a decision is made that could possibly do an injustice to agriculture in general and weaken our nation.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Members of the sugar fraternity not only in Washington and New York, but around the world are speculating on the details of the Administration's recommendation for sugar legislation which is supposed to be presented to Congress next week.

Some sources close to the Government have indicated that the Departments of Agriculture and State have not yet agreed on a joint position and the White House may have to break the impassé. It is rumored that the State Department is opposed to any permanent increase in the domestic quotas; that the growth of the United States market should go to foreign suppliers; that the global quota should be abandoned in favor of temporary increases in the quotas allotted to certain specified foreign countries and that a recapture premium shall be imposed.

The U. S. D. A.'s position is thought to be favoring a minor increase, not more than 500,000 tons in domestic cane and beet quotas for the next two years. Then domestic quotas would be frozen in return for the quota increases domestic areas would have to give up all participation in the "growth." The term of the new Act would be five years.

One Government official, when asked which plan would prevail — State's or Agriculture's — replied, "We have two plans but fortunately we have only one government and the plan that goes to Capitol Hill will be the Administration's."

Another item for speculation is, how much can producers get for their sugar? Under Secretary of Agriculture, Charles S. Murphy, in testimony before the Senate Finance Committee May 29, 1963, made a statement with respect to sugar prices, both present and future. Many members of the trade, when they heard or read Mr. Murphy's statements, were quite critical of his statistics and his conclusions. Events, however, have proven that Mr. Murphy either had the market statistics or a wonderfully accurate crystal ball. He forecast a record output for U. S. producers for 1963 and mainland cane and continental beet producers did break all p r e v i o u s records. Mr. Murphy went on to say, "There is no doubt that world production will again increase and overtake consumption. The speed with which this happens will depend upon the weather, the length of time required to induce new capital investments, and the policies of certain governments toward the sugar industry. We expect sugar prices to return to the normal range of U. S. prices, from 6 to 7 cents a pound, in the reasonably near future. We are not likely, however, to see serious price depressing surpluses again for some years ahead."

His forecast as to price is also correct. The New York quotation on May 11 for No. 7 "Spot" was 6.77c per pound, duty paid.

———o———

UP FRONT

(Continued from page 191)

Heart trouble forced his retirement about two and a half years ago. He moved to the home of his sister in Dinwiddie, where he died on Saturday, May 9th. Time marches on.

HEARING ANNOUNCED ON 1965 MAINLAND SUGARCANE PROPORTIONATE SHARES

The U. S. Department of Agriculture announced on May 6th that an informal public hearing will be held on May 19 to receive views and recommendations with respect to establishing farm proportionate shares (acreage allotments) for the 1965 sugarcane crop in the Mainland Cane Sugar Area (Florida and Louisiana).

This hearing will begin at 10 a.m. in the Grand Ballroom of the Jung Hotel, New Orleans, La.

In a press release dated April 3 (USDA 1111-64) the Department announced that consideration was being given to the need for establishing proportionate shares for the 1965 crop. Simultaneously, the Department announced that consideration was being given to limiting 1964 acreage credit, for use in establishing 1965-crop proportionate shares, to those acreages planted to sugarcane on or prior to April 15, 1964. Announcement was made by a press release on April 17 (USDA 1282-64) that this date was extended to May 1, 1964.

Marketing of sugarcane for the production of sugar from acreages within the proportionate shares established for their farms is one of the conditions that producers must meet to qualify for Sugar Act payments.

Production of sugarcane from the 1963 crop of sugarcane in the area exceeds the current quota by almost 300,000 tons. With no restrictions this year, the acreage in Florida is estimated to be about 40 percent greater than last year, and that for Louisiana about 10 per cent greater than for the 1963 crop. In view of the foregoing and the possibility of a very large carryover of sugar, imposition of restrictions on 1965-crop acreage appears necessary.

Views and recommendations of intersted persons are desired on all matters relating to establishment of proportionate shares.

USDA presents the following as a basis for discussion at the hearing:

1. What total acreage should be allotted if:

   a. The present basic quota provisions of the Sugar Act remain unchanged.

   b. The Administration's recommendation to the Congress for unlimited marketings in 1964 is adopted but no change is made in the basic quota for future years;

   c. The Administration's recommendation is adopted and a change also is made in the basic quota. Under this item, recommendations are requested on the acreage to be allotted for each 100,000-ton increase in the basic quota.

In making recommendations as to the level under the foregoing assumed quota levels, recognition should be given to maintaining on a continuing basis much larger inventories of sugar than heretofore to meet all possible marketing opportunities.

2. A farm base would be established for each farm having a record of planted acreage (area harvested for sugar, liquid sugar or seed plus acreage classified as bona fide abandonment) during any year of the "base period", comprising the crop years 1962, 1963 and 1964. Each farm base would be established at the larger of (a) 100 plus "x" percent of the average acreage on the farm for the base period or (b) 100 percent of the 1964 acreage.

3. A farm proportionate share would be established for each farm with a farm base by applying an appropriate adjustment factor to bring the total of proportionate shares to the desirable acreage level.

4. An additional acreage equivalent to about 1/4 of one percent of the estimated total of the proportionate shares for farms of each State, would be provided for making equitable adjustments in farm shares.

5. An additional acreage, equivalent to 1/4 of one percent of the estimated total of proportionate shares for farms of each State, would be available for establishing shares of up to 25 acres for new farms (those having no sugarcane acreage in the base period). Any farmer desiring a new farm share would file a written request for it at the local ASCS County Office.

USDA spokesmen stated that statistical information relating to acreages, sugar production, effective inventory, and other pertinent data is being sent to the Florida and Louisiana ASC State Committees for distribution to interested persons for their use in preparing their recommendations under the program.

Briefs may be presented at the hearing (in original and three copies) or mailed to the Director, Sugar Policy Staff, Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture, Washington, D. C. 20250, so as to be received not later than June 15.

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Technologists To Meet

Warren J. Harang, Jr., President of the American Society of Sugar Cane Technologists, has announced that the Summer Meeting of the Society will be held in the American Legion Building, Thibodaux, La., on Thursday, June 4th beginning at 8:30 in the morning. The meeting will proceed as follows:

8:30 a.m.—Registration and coffee, Legion Building

Manufacturing Section Program
(Tom Allen, Chairman)

9:00-9:30—Economic and Other Advantages of Increasing Mill Capacity, M. J. McNulty, Manager, Oaklawn Division, South Coast Corporation.

9:30-10:00—Review of 1963 Crop Factory Data, Dr. John J. Seip, Superintendent, Aubdubon Sugar Factory, L.S.U.

10:00-10:30—Cane Handling at Glades Sugar House, P. M. McIntyre, Agriculture Manager, Glades Sugar House, Belle Glades, Florida.

10:30-10:45—Coffee

Agricultural Section Program.
(E. R. Stamper, Chairman)

10:45-11:15—Sugar Cane Pesticides and Water in Louisiana, Dr. G. J. Lauer, Principal Biologist, Public Health Service, Atlanta, Georgia.

10:45-11:45—Progress Report of Cultivation Tools and Equipment for 1964, T. A. Thibaut, Lafourche Tractor Company.

11:45-12:00 — Business Meeting, Warren J. Harang, Jr. President.

12:00-1:00—Social Hour

1:00—Lunch

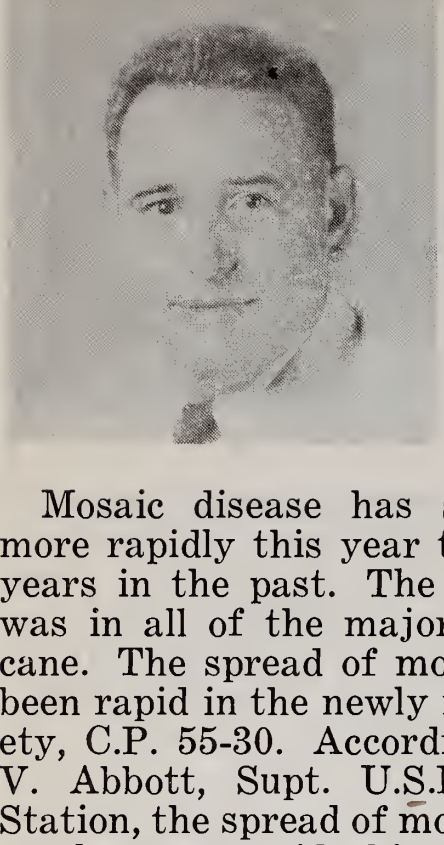
The Grower-Processor Committee

This is the time of the year when we begin to hear about the trials and tribulations of the "Grower-Processor Committee." A lot of folks think this is a committee of the American Sugar Cane League and we wish they wouldn't do that. Not that we don't have all the respect and sympathy in the world for the good people who make up the Grower-Processor Committee, but their Committee is an independent Committee originally formed at the request of the Government and has nothing whatsoever to do with the League.

The Grower-Processor Committee dates back to the start of the Government sugar program, which was about thirty years ago. It is composed of seven growers and seven processors, hence the name "Grower-Processor Committee." On May 13tn, 14th and 15th this year grower elections were held in four sections of the sugar district and Sterling C. Bain of Bunkie was elected to represent Area 1; Clifford LeBlanc of White Castle and Francis Guidry of Reserve, Area 2; John J. Tregre of Napoleonville, and Warren J. Harang, Jr., of Thibodaux, Area 3; and Ulysse Gonsoulin, Jr., of New Iberia, and P. J. deGravelles, of Franklin, Area 4.

Elected grower alternates were Otto Newman, Cheneyville, and Carol Aymond, Cottonport for Area 1; Richard Glynn, Ventress, Harold Schexnayder, White Castle, and Kenneth Kahao, of Port Allen, for Area 2; George Keen, Houma, Fernand Price,

(Continued on page 204)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Mosaic Spread Fast In 1964

Mosaic disease has spread much more rapidly this year than in many years in the past. The rapid spread was in all of the major varieties of cane. The spread of mosaic has also been rapid in the newly released variety, C.P. 55-30. According to Dr. E. V. Abbott, Supt. U.S.D.A., Houma Station, the spread of mosaic has been much more rapid this year than in any other year since 1925. Dr. Nat Zummo, Pathologist, U.S.D.A. Houma Station blames the very heavy infestation of the Sour Thistle Aphid for the rapid spread of mosaic disease this spring. According to Dr. Zummo, weather conditions were ideal for both the growth of the Sour Thistle or hogweed, and the increase of the Aphid. Dr. Zummo also reports that this insect has been found to be the most effective transmitter of mosaic disease.

Growers should be concerned about the rapid spread of mosaic disease in all of the varieties, but special attention should be given the newly released variety, C.P. 55-30. Growers can rogue small seed plots where the disease has reached as much as 5 percent. This has been successfully done many times on a number of places. It is not too practical to rogue much more than 5 percent mosaic disease particularly where there is a considerable amount of mosaic disease in other varieties nearby.

Growers are reminded that the release statement about this variety contained the following sentence "Roguing seedcane supplies for mosaic control is essential, and growers who find they cannot control mosaic in C.P. 55-30 by roguing should discontinue growing it." *This statement still holds true.*

Some growers may wish to try the variety at another location on the farm where the mosaic disease is not as heavy. This plan may be worth while. The variety has some excellent qualities. It will make more sugar per acre than other varieties. It is an excellent stubbler. One Secondary Station still has the stubble from the original 1959 planting of the variety. In fourth year stubble it is outstanding. The variety is also early in maturity. Although all of these qualities will make money, growers are urged to read the next sentence carefully. The variety is more severely affected by the infection of mosaic than any other released variety. In other words, it is less tolerant to mosaic once the virus gets into the plant.

Growers are urged to watch the variety with a caution attitude. If mosaic can be controlled in C.P. 55-30, plant the variety heavily. It will make you money. If mosaic cannot be controlled don't plant the variety.

Although the spread of mosaic was especially heavy during the spring of this year or in the fall last year, there is the possibility that the big spread has already occurred and the spread may not be as rapid from now on this year. This happened last year. In fact, there was very little spread in the latter part of May, June and July last year. It is hoped this will happen this year.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

The Winners Will Lose

Domestic sugar producers and U.S. cane sugar refiners are beating the "bejabers" out of each other over who gets what if there is new sugar legislation. Instead of fighting each other they should join forces not only in the interest of legislation but to halt the inroads being made on the sucrose market by synthetic sweeteners.

The popularity of synthetic sweeteners is growing by leaps and bounds. Diet consciousness in the United States as well as high sugar prices have been the major factors in spurring the race to manufacture synthetic sweeteners. An indication of the magnitude of the synthetic's effort to gain a larger share of the sweetness market is dramatized in the following quotation from the R & L Bulletin of May 11, 1964, published jointly by the Sugar Research Foundation, Inc. and Sugar Information, Inc.:

"The Synthetics Rat Race"

"The Food and Drug Administration has granted a temporary permit to Libby, McNeill & Libby to cover interstate market tests of a cyclmate-sweetened frozen concentrate for lemonade. Besides the synthetic sweetener, the product contains a thickener (methycellulose) and a dispersing agent (brominated vegetable oil). The permit runs until March 15, 1965 . . . General Mills is test-marketing an artificially-sweetened cereal flake product, mistakenly called Good News . . . *The Wall Street Journal* reports that Royal Crown will spend $11,000,000 in 1964 to advertise Diet Rite Cola, $3,500,000 more than in 1963. Coca Cola has a $2,000,000 magazine budget for Tab. A synthetically-sweetened version of Teem, Pepsi-Cola's lime-lemon drink, is due shortly . . . Curtiss Candy Company is plugging Swing, low-calorie instant drink mix . . . A sub-committee on Commerce has approved an amendment to the Food, Drug and Cosmetics Act which will permit the use of non-nutritive chemical substances in confectionery, ostensibly to improve the taste, texture and shelf-life of candy. The amendment was supported by the National Confectioners Association and Corn Industries Research Foundation, but opposed by the FDA . . . Production of non-caloric sweeteners continues to accelerate. Charles Pfizer & Company will erect a 4,000,000 pound plant at Groton, Connecticut, to be in operation this summer, and Baldwin-Montrose Chemical of Philadelphia has announced another 4,000,000 pound plant to be in operation before the end of the year. Estimates indicate that present and contemplated U. S. cyclamate capacity is in the neighborhood of 30 million pounds a year. Consumption in 1963 was 7,000,000 pounds and some estimates suggest that it will rise to 12,000,000 pounds in the next four years . . . Finally, from the Questions-and-Answers column of *Today's Health,* a publication of the American Medical Association, this quote: 'In our opinion, use of sugar substitutes with coffee and tea is principally a token gesture that makes those who are reducing feel self-righteous, or at least less guilty,

(Continued on page 206)

EXCERPTS FROM THE TESTIMONY OF W. S. CHADWICK AT THE ACREAGE ALLOTMENT HEARING IN NEW ORLEANS MAY 19, 1964

Let me here outline our position and conclusions regarding 1965 proportionate shares.

1. I have stated, proportionate share restrictions must be imposed upon 1965 acreage in the Mainland Cane Sugar Area.

2. I have also pointed out, the high level of existing sugar cane acreage is due, at least in large part, to governmental encouragement. This fact must be constantly borne in mind in considering acreage reductions.

3. Restrictions must be so designed as to give first consideration to the maintenance of acreage of historical producers, as contemplated by the Sugar Act. Subject to such consideration, new producers and old producers with large quantities of new 1964 acreage must be treated equitably. However, equitable treatment must not be considered to include any provision which serves as an incentive to increase acreage for history purposes only.

4. Additional acreage not now in existence, but planned for 1965 and subsequent crops, exclusive of acreage from reserves to be established, must be prohibited.

5. If major acreage reductions are ultimately necessary because of a failure of the Congress to fully remedy our restrictive quota situation, in view of the still largely unsettled world supply picture, and to minimize hardships, and further to provide for every possible marketing opportunity, such reductions should be in the form of a series of annual moderate acreage cuts.

6. The determination should provide for each state based upon its own peculiar conditions a method or methods whereby the state's proper level of production will be reached to the extent administratively possible, including a reserve acreage provision for underplantings in Louisiana.

We, therefore, recommend that a 1965 Proportionate Share Determination be issued at the earliest possible date. We will include in this testimony our views as to the establishment of a farm base, a maximum limit applicable to all farms, provision for farm adjustments and for new farms and provisions for an acreage reserve in Louisiana. The Determination should most certainly be issued without waiting for Congressional action as to 1965 quota levels. Therefore, although we are recommending an adjustment factor under various assumed quota situations, we are recommending that the initial order not contain a precise adjustment factor, but merely a statement indicating that the factor would be determined and issued in an amendment to the initial order at such time as the quota picture for 1965 is clarified.

With the above thoughts in mind, we shall attempt to cover the several items presented as a basis for discussion by the Department in its notice of this hearing, although not in the order therein stated.

Farm Base

In determining proportionate shares there must be first established a farm base for each farm. We concur in the method suggested by the Department. A farm base should be established for each farm having a record of planted acreage (acreage harvested for sugar, liquid sugar or seed plus acreage classified as bona fide abandonment) during any year of the "base period." The "base period" should comprise the crop years 1962, 1963 and 1964. The farm base for each farm should be established at the larger of (a) 112.5% of the average acreage on the farm for the base period or (b) 100% of the 1964 acreage on the farm.

This recommendation supplies the ne unknown in the Department's uggestion. The suggested "100 plus x' percent" is made 112.5%. For his purpose any percentage figure nay be considered somewhat arbirary. However, the 112.5% recomnended by us has what we consider completely equitable and legal basis, s I shall hereinafter explain, and vill provide equitable results.

Farm Proportionate Share

After establishing the farm base, farm proportionate share must be stablished by applying the proper djustment factor. For 1965, this djustment factor must be dependent n what quota action is taken by the Congress later this year. Therefore, ve recommend that the proportionate hare for each farm be the farm base djusted by the appropriate adjustnent factor hereinafter stated, aplicable to each of the conditions asumed, as follows:

(a) If the present basic quota provisions of the Sugar Act remain unchanged, the appropriate adjustment factor should be 80% of the farm base;

(b) If the administration's recommendation to the Congress for unrestricted marketings in 1964 is adopted, but no change is made in the basic quota for future years, the appropriate adjustment factor should be 58% of the farm base;

(c) If the administration's recommendation is adopted and a change also is made in the basic quota, the appropriate adjustment factor should be:

1. 90% if the basic quota is increased 100,000 tons;
2. 95% if the basic quota is increased 200,000 tons;
3. 100% if the basic quota is increased 300,000 tons;

rovided, however, that the proporionate share for any farm established under the provision of the determination should not exceed the largest acreage on the farm in any one of the years 1962, 1963 and 1964

Farm Base And Proposed Adjustments Justified

The use of 112.5% of the average of the three years in the base period or 100% of 1964 acreage to establish a farm base is predicated on equitable and legal considerations. It is our belief, in view of all existing circumstances and conditions, that under the most adverse quota conditions assumed above, an established producer with three or more years of production history, should not under any circumstances suffer a reduction in establishing 1965 acreage of more than approximately 10% of his average acreage for the most recent three year period. Also, we feel under these very adverse conditions, the new producer with production only in the year 1964, and the producer who has expanded very substantially in 1964, should reasonably suffer a reduction in establishing 1965 acreage of at least 20% of his 1964 history. It is particularly important to bear in mind that this difference represents proper consideration given to "past production" as required in Section 302 (b) of the Sugar Act.

This reduction of 10% and 20% leaves a resulting relationship between the two groups of 90% of the three years average and 80% of the one year 1964. Note that 90% is 112.5% of 80%. Therefore, we have recommended a farm base of the higher of 112.5% of the three years average acreage or 100% of the 1964 acreage. After so establishing farm bases which recognize this proper relationship, the appropriate adjustment factor is applied uniformly to all farm bases.

Total Acreage Allotted

If our recommendations for establishing 1965 crop proportionate shares are adopted, the total acreage we estimate would be allotted under each of the conditions indicated is as follows:

(a) If the present basic quota provisions of the Sugar Act remain

(Continued on next page)

unchanged, the acreage allotted would be 474,000.

(b) If the administration's recommendation to the Congress for unlimited marketings in 1964 is adopted, but no change is made in the basic quota for future years, the acreage allotted would be 505,000.

(c) If the administration's recommendation is adopted and

I. The basic quota is increased 100,000 tons, the acreage allotted would be 533,000.

2. The basic quota is increased 200,000 tons, the acreage allotted would be 556,000; and

3. The basic quota is increased 300,000 tons, the acreage allotted would be 573,000.

Under all conditions now existing, which are elsewhere set forth in my testimony, we feel the acreage stated under each of the conditions indicated is reasonable.

Acreage Reserve

Although not referred to in the notice of this hearing, it is essential that the 1965 determination contain a reserve acreage provision for under-plantings in Louisiana, comparable to the provision included in the 1963 crop determination.

In 1963 Louisiana producers were granted an acreage reserve of 10,000 acres. The full amount of this reserve was applied for and allotted by the State A.S.C.S. office. We nevertheless produced a crop which was 6000 acres short of our agreed upon objective and 27,258 acres less than the sum of all Louisiana farm proportionate shares.

Based on established history and our best estimates and evaluation of the future, we recommend that the acreage reserve for Louisiana to compensate for unused proportionate shares in 1965 be established at 5 percent of the estimated total of proportionate shares for farms in Louisiana.

Based on our analysis of the situation, this necessary reserve may not be fully utilized by established producers.

We therefore recommend, that the 1965 determination provide that immediately after the allocation of additional proportionate shares from this reserve to established farms, any excess acreage in such reserve be transferred to the new-producer reserve and be made available to new-producer farms. This transferred acreage reserve should be first allotted to any new-producer applicant whose request for the basic 25 acres could not be satisfied from the reserve originally established for new producers. The remainder of this transferred reserve should then be allotted to qualified new producers who apply for proportionate shares in excess of the basic allotment of 25 acres.

———o———

UP FRONT

(Continued from page 199)

Thibodaux, and R. J. Thibodaux, Houma, for Area 3; and Leroy LeBlanc, St. Martinville, Edward G. Smtih, Jeanerette, and John Germany, of Loreauville, for Area 4. Clifford LeBlanc was elected Chairman of the growers.

The processor members of the Committee, who were elected earlier, are J. J. Munson of Houma, who is the Chairman; T. M. Barker, Lockport; W. S. Chadwick, New Orleans; Irving Legendre, Thibodaux; Thomas H. Allen, Franklin; P. L. Billeaud, Broussard, and James H. Thibaut, of Donaldsonville, La.

The alternate processor members are J. N. Foret, Jr. of Supreme; Charles C. Savoie, Belle Rose; Don T. Caffery, Franklin; and E. Bershire Terrell, Jr., of Brusly, La.

It is the job of the Grower-Processor Committee to try to reach an amicable agreement on the distribution between the mills and the growers of the proceeds from a ton of cane and make recommendations to the Government regarding the Fair Price Determination, more commonly called the "Cane Purchase Contract." The League takes no part in these

negotiations and is not responsible for any decisions made by the Committee.

If the two segments of the industry reach an agreement, which has been the case more often than not, the Committee will make one set of recommendations to the U.S. Department of Agriculture. If no agreement is reached, the growers make their recommendations and the processors make their recommendations and the Government makes the decision.

The public hearing on the Fair Prices Determination is scheduled this year on July 9th. We will let you know the time and place at a later date.

R. L. Roane Passed On

Robert Lee Roane, Sr., who has been part of Louisiana Sugar Industry for many years, will no longer be with us. Mr. Roane died at his home in Jeanerette on Thursday, May 21, 1964 after a rather protracted illness. He was 67 years old.

Mr. Roane was the head of the Albania Sugar Company of Jeanerette at the time of his death but for years he was connected with the Loisel Sugar Company, also of Jeanerette, which belonged to the Roane family. The announcement of his death in the St. Mary and Franklin *Banner-Tribune* says that he owned farm lands in Mexico in the early 1930's and taught agriculture in Cuba and Mexico.

Survivors include his widow, two sons, Robert Lee Jr., and John F. of Jeanerette; a daughter, Mrs. James Erickson of Summit, N. J., and a sister, Mrs. Edward Smith, Sr., of Jeanerette. To them we extend our heartfelt sympathy.

Howard To Aron

J. Aron & Company, Inc., of New Orleans, operators of the Supreme Sugar Refinery, have announced that Sedgwick Howard, who was well and favorably known in Louisiana a few years ago when he headed the Godchaux Division of the National Sugar

(Continued on next page)

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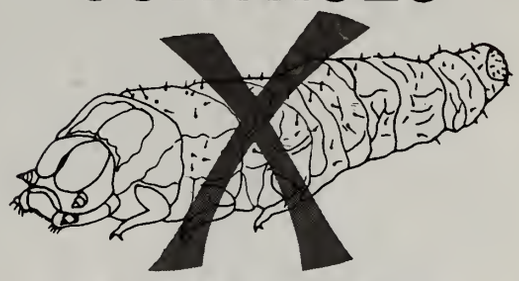

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Refining Company, has been elected a Vice-President.

The announcement states that Mr. Howard will be in charge of the Supreme Sugar Division and will succeed Mr. Charles A. Levy who has served in that capacity for forty-four years and who is retiring effective December 31, 1964.

It is, of course, a pleasure to welcome Mr. Howard back into the fold. We are saddened, however, at the thought of our good friend Mr. Levy leaving the fold. Perhaps he will stay on in some capacity. We hope so, anyway.

Doyle To National

The National Molasses Company, a subsidiary of C. Brewer and Co., Ltd., of Honolulu, Hawaii, announced on May 15th that Bascom K. Doyle has been appointed Western United States Manager with headquarters at Wilmington, California.

Mr. Doyle, as we are sure all Louisiana processors know, has been the manager of the Pacific Molasses Company in this part of the country for the past ten years. During practically this entire time he served as a member of the Molasses Quotation Committee of the Louisiana Sugar Exchange and was Chairman of this Committee in 1957 and 1958. We are sorry that he has decided to leave Louisiana for what we hope will prove to be "greener fields" for him. His cooperation during the past ten years has been greatly appreciated.

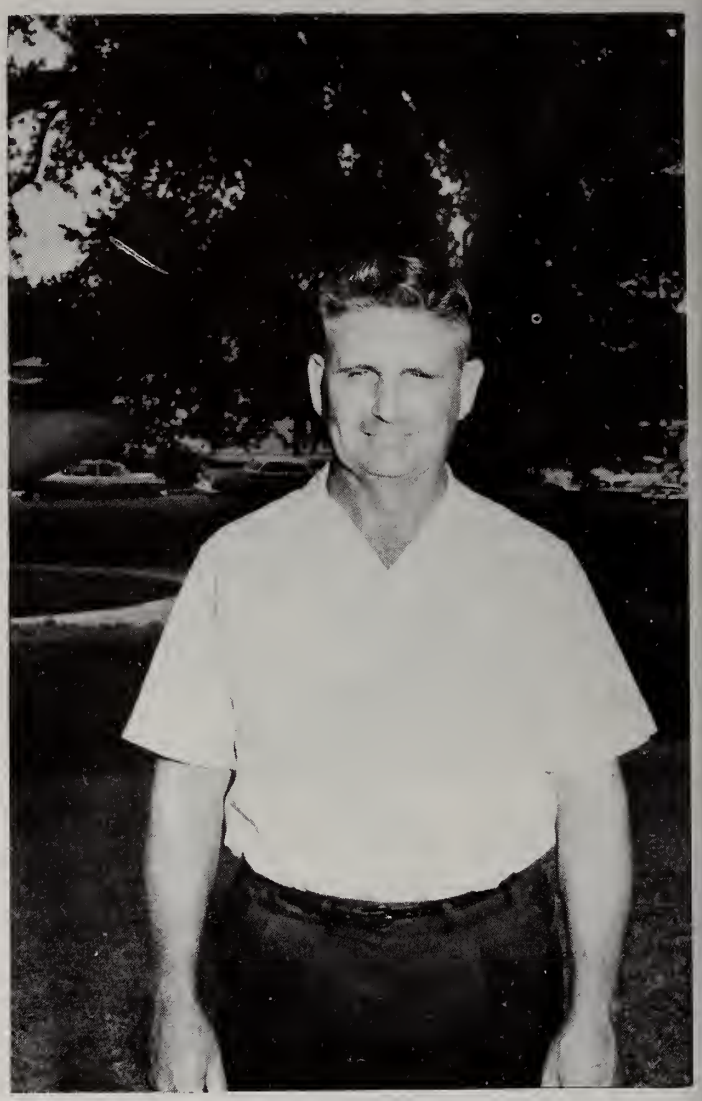
IN WASHINGTON

(Continued from page 201)

about indulging in large-scale dietary excesses. The calories saved are relatively insignificant.' "

If the sugar producers and refiners continue their feuding for another year, there may not be enough of the market left to be worth fighting over.

—o—



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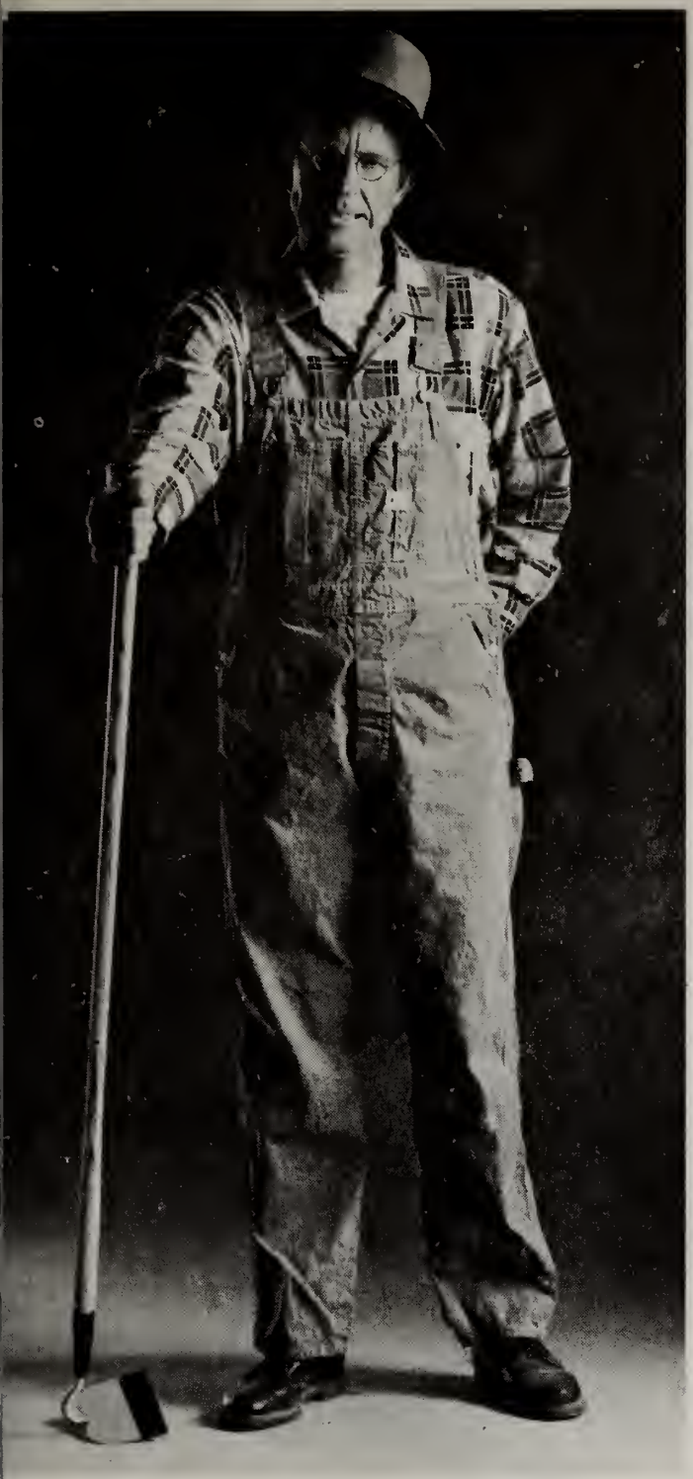

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THE SUGAR BULLETIN

Vol. 42 — No. 18 JUNE 15, 196

Official Bulletin of the American Sugar Cane League of the U. S. A

NOTICE OF HEARING ON WAGES AND PRICES

Pursuant to the authority contained in sections 301 (c) (1) and 301 (c) (2) of the Sugar Act of 1948, as amended, (61 Stat. 929; 7 U.S.C. 1131), and in accordance with the rules of practice and procedure applicable to wage and price proceedings (7 C.F.R. 802.1 **et seq.**), notice is hereby given that a public hearing will be held in Houma, Louisiana, in the District Court Room, Terrebonne Parish Courthouse, on July 9, 1964, beginning at 10:00 a.m.

The purpose of such hearing is to receive evidence likely to be of assistance to the Secretary of Agriculture in determining (1), pursuant to the provisions of section 301 (c) (1) of said Act, fair and reasonable wage rates for persons employed in the harvesting of the 1964 crop of sugarcane, and in the production and cultivation of sugarcane during the calendar year 1965, and (2), pursuant to the provisions of sections 301 (c) (2) of said Act, fair and reasonable prices for the 1964 crop of sugarcane to be paid, under either purchaser or toll agreements, by producers who process sugarcane grown by other producers and who apply for payments under the Act.

In the interest of obtaining the best possible information, all interested persons are requested to appear at the hearing to express their views and present appropriate data in regard to wages and prices. While testimony on all pertinent points is desired, it is especially requested that witnesses be prepared to offer information and recommendations on the following matters regarding fair wages for fieldworkers and fair prices for sugarcane:

I. **Wages.**

(a) Elimination of the 5 cent per hour differential in wage rates between harvesting work and production and cultivation work for tractor drivers.

(b) Elimination of piecework rates per ton for cutting sugarcane.

(c) Regrouping of harvest worker classification and evaluation of rate differentials to provide a simplified basis minimum wage structure.

II. **Prices.**

Periods to be used to determine the seasons' average prices of raw sugar and blackstrap molasses.

The hearing, after being called to order at the time and place mentioned herein, may be continued from day to day within the discretion of the presiding officers and may be adjourned to a latter day or to a different place without notice other than the announcement thereof at the hearing by the presiding officers.

D. E. McGarry, Ward S. Stevenson and W. N. Garrott are hereby designated as presiding officers to conduct either jointly or severally the foregoing hearing.

Signed at Washington, D.C. on: June 10, 1964.

/s/ E. A. JAENKE
Acting Administrator, ASCS

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Senators Allen J. Ellender and Russell B. Long, on June 10, 1964, addressed the following letter to Secretary of Agriculture, Orville L. Freeman:

"Dear Mr. Secretary:

"The change in domestic sugar quotas should be based upon, and perhaps limited to, the actual and proven ability to produce.

"When Castro took Cuba out of the free family of nations; when world consumption of sugar increased as world economic conditions improved; when Europe's sugar production decreased due to poor weather conditions—the Department of Agriculture removed all restrictions on domestic sugar growers and urged increased production. The continental cane and beet growers responded promptly.

"As a result the 1963-64 production of beet sugar was 400,000 tons greater than the present marketing quota and Mainland Cane's production was 300,000 tons greater than its present quota. These respective quotas should be increased by those amounts.

"We should point out that in early March of this year, the Mainland Cane Area requested the Agriculture Department to reinstate acreage controls for 1965. This area, at least, does not wish to be asked to produce sugar in excess of its marketing rights. It also is refraining from requesting an increase above its presently proven ability to produce. Bear in mind that when cane acreage is planted it must be allowed to produce from 3 to 5 years or a capital loss is inflicted.

"Unfortunately beet producers have not requested the reimposition of acreage controls for 1965. They should, if they are going to exhibit the same cooperative spirit that has prevailed in past negotiations on Sugar Act amendments and extensions. They should also limit their request for quota increase to the amount necessary to match their last and largest crop year. After all, beet growers purchase seed each year for a one-crop investment. They have switched from the production of one farm commodity to another in the past and can do so again.

"An increase in the Mainland Cane Area quota is not detrimental to the other domestic areas nor to Western Hemisphere conutries who have been helpful recently. Our refiners can purchase, melt and refine Louisiana and Florida raw sugar with greater control over arrivals and quality than is possible in the case of South Africa, Australia or Indian raw sugar—as an example. When mainland cane sugar supplants foreign sugar from distant areas of the world, there is no detrimental effect on domestic areas nor on our Latin American neighbors.

"Admittedly an increase in the Beet quota does create marketing problems. Their expanded production cannot be marketed in their normal trade area and shipments must be made to areas that cause distribution losses to the refiners. Increases in beet quotas, therefore, should be held to the minimum amount judged by the Congress to be necessary to afford protection for our consumers.

"With kindest regards and best wishes, we are

Sincerely yours.

ALLEN J. ELLENDER
U. S. Senator

RUSSELL B. LONG
U. S. Senator"

Hearings on sugar probably will begin on June 22 or shortly thereafter. Secretary Freeman has said that "there must be sugar legislation this year, and it is presumed that the hearings will begin as soon as the various Government Departments have made their recommendations to Congress."

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Contact Committee Meets June 25th

It is again time for the Contact Committee Meeting at the U.S.D.A. Houma Station. The meeting will be held Thursday June 25, 1964 beginning at 9:30 in the morning. The place is the *air conditioned* Houma Municipal Auditorium. The subjects to be discussed will all pertain to the growing of sugar cane. Dr. E. V. Abbott, Superintendent of the Houma Station and Mr. Malcolm Duhe, Chairman of the Contact Committee invite all cane growers to attend this meeting. The schedule of the program is printed below.

Growers will be interested in every subject on the program but most growers seem to have a great curiosity about new varieties. Mr. Rouby Matherne, Mr. Hugh Fanguy, and Dr. T. J. Stafford, are really authorities on testing new varieties. These researchers spend their full time working on new varieties. Growers can ask these scientists about what the future holds for new varieties.

(Continued on page 222)

Morning Session

9:30-10:00	Breeding and Seedling Work:
	Breeding work at Canal Point ..... P. H. Dunckelman
	Seedling work at Houma ..... R. D. Breaux and R. L. Tippett
	Variety Reports:
	Results with unreleased varieties at the Houma Station
	1964 variety census
10:00-10:20	Date of planting studies ..... R. J. Matherne
10:20-10:40	Test field varieties ..... H. P. Fanguy and T. J. Stafford, L.S.U.
	Coffee Break
10:50-11:15	Weed Investigations ..... R. W. Millhollon
11:15-11:35	Physiology Investigations ..... J. E. Irvine
11:35-12:00	Nutria Control ..... E. E. Parks and K. M. Garner, U. S. Dept. of Interior
	Remarks by Dr. Thomas Theis, Chief, Tobacco and Sugar Crops Branch, Agricultural Research Service, Beltsville, Md.
	Adjourn for barbecue lunch

Afternoon Session

	Disease Investigations:
1:15- 1:25	The mosaic problem ..... E. V. Abbott
1:25- 1:40	Mosaic and RSD studies ..... N. Zummo and R. L. Tippett
1:40- 1:50	Report of Committee on Mosaic Control ..... M. L. Shaffer, South Coast Corp.
1:50- 2:10	Maturity and Fertilizer Investigations ..... L. G. Davidson
2:10- 2:40	Insect Investigations ..... Ralph Mathes, J. W. Sanford and L. J. Charpentier

BREEDING FOR NEW COMMERCIAL SUGARCANE VARIETIES CANAL POINT, FLORIDA, 1963-1964 CROSSING SEASON

By P. H. Dunckelman[1]

The USDA sugarcane breeding program continued to widen in scope during the 1963-64 crossing season to keep abreast of the expanding sugar industries of Louisiana and Florida. A greater-than-average number of crosses was made in spite of drought and consistently low night temperatures which caused poor arrowing and a serious shortage of male-fertile flowers in breeding canes growing in the field.

Many new parental varieties were used in the crosses. All of the new parents are complex hybrids that embody characteristics needed to produce commercial sugarcane varieties. Every effort was made to use these and other parents recommended for crosses by the Sugarcane Germ Plasm Committee which met at Canal Point on July 24, 1963, to develop plans for more effective use of available germ plasm. Particular emphasis was placed on development and use of parental clones resistant to mosaic and cold.

A majority of the new parent varieties in 1963-64 crosses originated at Canal Point in 1957 and 1958. In addition to having some cold and disease resistance, these varieties are very high in sugar content early in the season, and have heavy stalks of good girth and length. Other new parent varieties were noted for their excellent juice quality, solid stalks, erectness, strong root systems, drought resistance, and low fibre content.

In addition to the extensive use of new germ plasm, a select number of older "elite" sugarcane parents of proved performance were used in crosses during the 1963-64 breeding season; they were crossed with some of the outstanding new Canal Point varieties and varieties from other sources. Varieties of *Saccharum officinarum* and *Saccharum robustum,* indigenous to the islands of the southwest Pacific Ocean, were crossed with complex hybrids in a few exploratory combinations designed to produce new sugarcane germ plasm.

Weather and Flowering

Drought preceded the flowering period at Canal Point during 1963. Between July 1 and November 1, 1963, only 13.29 inches of rainfall was recorded at the Experiment Station; in addition, the rainfall was poorly distributed. Normal rainfall during this period is about 30.00 inches.

Following the drought, cold weather came very early to southern Florida. Outside minimum night temperatures on the warmest part of the Canal Point Station averaged only 49.6° F. during the crossing period. Average temperatures over the area were about 8° below normal.

Poor flowering of breeding varieties occurred in field plots. Early flowering varieties produced barely enough panicles for crosses, and emergence of panicles was 2-4 weeks later than usual. Varieties that normally flower in field plots during the mid-season were slow to produce panicles and did not flower well. Late-flowering varieties flowered very poorly, and many inflorescences failed to emerge from the boot and finally aborted.

In contrast to field plots, flowering of can-cultured canes was excellent in the development area of the crossing house, on outside racks near the south side of the house, and on railroad carts which were rolled in and out of the house. An abundance of viable pollen was produced by flowering male-fertile varieties placed inside the house and on the carts.

Technique

Experience throughout the world has shown that advance technical planning and work are necessary to the achievement of success in sugar-

cane breeding. This is especially true where indoor breeding is employed and particularly applicable if the sugarcane breeder uses live-rooted plants in the crossing work.

To conform to principles that have worked well in the system of controlled breeding now in operation at Canal Point, over 500 mature can-cultured stools of breeding varieties were available for indoor crosses at the beginning of the crossing season. Can-cultured varieties were given special attention with respect to soil mixture, irrigation, fertilization, pruning, and tying upright. Approximately 220 can cultures of eleven elite male-fertile parents were placed on railroad carts and preconditioned for male-fertility by temperature control in the crossing house months in advance of the cross-pollination period. Other varieties were conditioned inside the house where minimum night temperatures were maintained at 65°-70° F. before and during the flowering period. Male-sterile varieties growing in cans on outside racks were left outdoors until ready for use in crosses.

When airlayering was started on October 25, 1963, four fields of breeding varieties containing almost 1000 plots had been staked with 10-foot creosote-treated poles and the canes tied upright with 26-foot strips of heavy-duty, nylon parachute chord. In all, 2,375 stalks of flowering canes (over 200 varieties) were airlayered with sphagnum moss and black polyethylene film before the start of the crossing season. A new technique of watering the airlayers, referred to as the "injection" method [1] was used, as shown in Figure 1.

All of the new crosses were biparental, made in cubicles of the plastic crossing house, according to the "area" crossing technique. In area crosses, tassels of one male-fertile variety are used to cross-pollinate tassels of two or more male-sterile varieties. In crosses of this type, extra caution in selection of male-sterile varieties is required to maintain pur-

(Continued on next page)

Figure 1.—Water being injected under centrifugal pump pressure into moss airlayers through needle-like brass nozzles on hose from 300-gallon spray tank.

ity of the crosses. The usual practice at Canal Point is to limit the number of male-sterile varieties to three or four in each area cross; that practice was followed this season. Other types of crosses may be made at Canal Point, as described in an earlier report;[2] however, the area cross is most efficient in the utilization of greenhouse space.

When seed in tops of cross-fertilized female tassels showed signs of ripening, large paper bags with top vents were placed over the tassels (Figure 2) to recover as many ripe seeds as possible. Collection of the first ripe seed was begun January 10, 1964, and ripe seed from the last crosses were gathered on February 12, 1964. The seed lots were dried, test-planted for germination (Figure 3), and distributed as rapidly as possible to the cooperating Stations in Louisiana, Florida, Mississippi, and Georgia. In each area, seed of many of the crosses were germinated in mass plantings to produce seedlings from which new commercial sugar and sirup varieties can be selected. The remainder of the seed was stored in freezers for future use.

Figure 2.—Cross-fertilized male-sterile tassels bagged to recover ripe seeds.

In addition to advance planning and work in the preparation of parental material and mechanical techniques of crossing, a technical plan of selecting the parents is designed a year or more in advance of making a series of crosses. This choice of parents is predicated mainly on: (1) genetic characteristics of the varieties; (2) proved combining ability based on previous successful crosses with other varieties; and (3) specific recommendations by scientists and other qualified representatives of the industry.

The general choice of sugarcane parents for most effective results on a differential basis is determined by research recommendations founded on studies of diseases and insects, latitudinal requirements, soil types, microclimates, soil microenvironmental conditions, agro-mechanical practices, and other considerations which affect breeding procedures. Because of diversities involved in the development of commercial sugarcane varieties for all areas and conditions, breeding plans are designed to widen the overall scope of the germ plasm. Breeding plans require the best possible use of flowering canes in the World Collection at Canal Point and advocate the development and implementation of new techniques to improve flowering and sexual fertility of breeding canes.

Crosses for U. S. Mainland Areas

The first cross of the season was made on November 19, 1963, and the last one on January 6, 1964. Of the 401 crosses completed, 281 were for Louisiana, 103 for Florida, and 17 for the sirup areas of the Southeastern United States (Table 1).

Louisiana Crosses

Crosses for the Louisiana sugarcane industry involved many early-flowering parental varieties noted for their ability to synthesize a high content of sucrose in a relatively short period of time. Most parental clones are Canal Point varieties screened intensively for high sucrose content after 7-8 months growth in Louisi-

ana. A few of the Indian (Co.) varieties and Louisiana (L.) varieties conform to the early high-sucrose pattern of sugar synthesis common to the new Canal Point varieties. The recurrent use of more early high-sucrose varieties in crosses of recent years now results in the annual production of many new Canal Point varieties which are very high in sucrose content early in the growing season.

During the 1963-64 crossing season, 110 of the 281 crosses designed for Louisiana were made with high-sucrose varieties on both female and male sides of the cross. The early-maturing parents in this category of crosses for Louisiana included C.P. 44-155, C.P. 48-103, C.P. 50-37, C.P. 51-21, C.P. 51-24, C.P. 52-1, C.P. 52-15, C.P. 53-18, C.P. 55-30, C.P. 56-8, C.P. 59-22, C.P. 61-6, C.P. 61-18, C.P. 61-21, C.P. 61-23, C.P. 61-25, C.P. 61-28, C.P. 61-29, C.P. 61-33, C.P. 61-37, C.P. 61-39, C.P. 61-43, C.P. 61-44, C.P. 61-46, C.P. 61-49, C.P. 61-56, C.P. 61-57, C.P. 61-59, C.P. 61-60, C.P. 61-61, C.P. 61-63, C.P. 61-72, C.P. 61-80, C.P. 61-84, C.P. 62-207, C.P. 62-212, C.P. 62-214, C.P. 62-216, C.P. 62-217, C.P. 62-223, C.P. 62-229, C.P. 62-235, C.P. 62-244, C.P. 62-247, C.P. 62-250, C.P. 62-258, C.P. 62-260, C.P. 62-263, C.P. 62-267, C.P. 62-286, C.P. 62-289, C.P. 62-321, C.P. 62-333, L. 60-25, L. 61-46, L. 61-54, and L. 61-67.

An immediate goal of the USDA breeding and variety development program is to release one or more new disease-resistant, high-tonnage varieties which will produce at least 200 pounds of sugar per ton of cane in early October under Louisiana growing conditions. Seedling and variety development work of the U. S. Sugarcane Field Station at Houma, Louisiana,[3] indicates that some of the new 1961 and 1962 Canal Point varieties may meet these standards.

Sugarcane diseases continue to be the greatest obstacle to more rapid progress in the breeding and development of new superior sugarcane varieties. Virulent strains of mosaic occurring in Louisiana accounted for

Figure 3.—Seedlings from germination-tests of crosses of the 1963-64 Canal Point series.

the elimination of hundreds of thousands of new sugarcane seedlings in greenhouse inoculation procedures at Houma since the spring of 1958. Other promising seedlings become infected with mosaic when set out in fields or during the course of their development to more advanced stages of testing. Red rot and root rot also account for the natural elimination of countless numbers of new seedlings and promising varieties each year.

As a result of the enormous toll taken by diseases, it has become necessary to process great numbers of seedlings every year from a wide range of disease-tolerant or resistant parents to screen for plateaus of resistance never before required in new commercial sugarcane varieties. Because of the increasing importance of diseases, 136 crosses were made for Louisiana with parental varieties having high levels of resistance or tolerance to mosaic, red rot, root rot, and other diseases.

Parents in crosses for disease resistance included the varieties C.P. 36-13, C.P. 44-155, C.P. 45-150, C.P. 46-115, C.P. 48-103, C.P. 52-1. C.P. 52-68, C.P. 53-5, C.P. 56-8, C.P. 58-51, C.P. 57-614, and C.P. 59-29. Also, some of the new Canal Point varieties assigned in 1961 and 1962 which have thus far proved disease-resistant were crossed with each other and with the varieties listed above; however, no sugarcane breeding variety has ever been found that is genetically resistant to many of the major sugarcane diseases. C.P. 52-68 is resistant to red rot but susceptible to mosaic; whereas, C.P. 52-1 is susceptible to red rot but resistant to mosaic.

A special series of 12 crosses was made to initiate a new study of the mode of inheritance of resistance to the red rot disease in sugarcane. In Louisiana, red rot generally attacks the seedcane and overwintering stubble and may cause stand failures or poor stands in the spring with resultant huge losses to the sugarcane grower. In this category three types of crosses were made: (1) resistant variety x resistant variety; (2) resistant variety x susceptible variety; and (3) susceptible variety x susceptible variety. Much progress has been made in breeding and developing new sugarcane varieties with commercially acceptable levels of resistance to red rot; but because of the extremely heterozygous nature of complex sugarcane varieties and the hybrid nature of genetic mutations of the red rot fungus, very little is known about the inheritance of resistance to red rot. It is hoped that new knowledge from this study can be applied to breed varieties highly resistant to red rot.

Continued emphasis was placed on

(Continued on next page)

TABLE 1.--Crosses and seed production of the 1963-64 breeding season at Canal Point, Florida

	Crosses	Viable seed	
	Number	Number	Percent
Louisiana (for sugar)	281	600,623	81.42
Florida (for sugar)	103	127,404[2/]	17.27
Sirup Area[1/] (for sirup)	17	9,650	1.31
Total	401	737,677	100.00

[1/] Meridian, Mississippi and Cairo, Georgia

[2/] Included an estimated 37,764 seedlings in germination tests.

breeding for cold resistance, and 35 crosses were made with parent sugarcanes that possess qualities for withstanding low temperatures in mill cane and stubble crops. The principal varieties used as parents for cold resistance were C.P. 46-115, C.P. 47-146, C.P. 55-30, and C.P. 57-614. In addition to being cold tolerant when mature, C.P. 46-115 and C.P. 57-614 are high in sucrose and resistant to diseases. C.P. 57-614 is promising as a possible commercial variety for "cold" lands in the Florida Everglades. Some of the new high-sucrose varieties of the C.P. 1961 and C.P. 1962 assignments (used in current crosses) also have considerable cold resistance as shown by their ability to overwinter and produce good stands in stubble crops following the coldest winters of the century in Louisiana.

Eleven crosses were made with sugarcane resistant to the sugarcane moth borer, *Diatraea saccharalis* (F.), the most destructive insect pest of sugarcane in the United States. The parental canes in these crosses were recommended for breeding by the entomologists of the U. S. Sugarcane Field Stations at Houma, Louisiana, and Canal Point, Florida.

Florida Crosses

In 103 new sugarcane crosses for Florida, the same basic principles of applied genetics were used as in crosses for Louisiana. Breeding was done for high sucrose, disease resistance, cold tolerance, and other qualities desired in good commercial sugarcane varieties. The ultimate objective, as for Louisiana, is to produce one or more disease-resistant, high-yielding commercial sugarcane varieties adapted to Florida weather and soil conditions. Because of differences in soil types and length of growing seasons in Florida, special crosses were made to conform to "warm" and "cold" land requirements in the Everglades region.

In the "warm" zone, close to the southeastern shores of Lake Okeechobee where severe cane-killing freezes seldom occur, the growing season for plant cane on Okeechobee muck may extend up to 17 months; and stubble cane may grow 12 months or longer before it is cut for milling. Conditions in this area are similar to those in the tropics. Breeding procedure, especially a careful choice of parents, is of considerable importance from the standpoint of "latitudinal" breeding within microclimatic zones of the Everglades.

In warm-land crosses attempts were made, where possible, to cross sweet, big-barrel, low-fibre varieties of a tropical or subtropical nature (highly nobilized) with a propensity not to flower or to flower poorly on Okeechobee muck. Also, good-stubbling, vigorous varieties with strong root systems were cross-pollinated with some of the new high-sucrose, disease-resistant C.P. varieties which flower from mid- to late-season in southern Florida. From crosses of this nature, it may be possible to select non-flowering or sparse-flowering canes that give a high yield of cane per acre and a high sucrose after 10-12 months growth and that stubble satisfactorily for six or seven years.

Crosses for "cold" land areas of Florida were made with parent varieties similar in genetic constitution to those used in crosses for Louisiana. The growing season on Florida "cold" lands is similar to the short growing season in Louisiana. Everglades peat and Okeelanta peaty-muck lands under sugarcane cultivation away from the warming influence of Lake Okeechobee are subjected each winter to recurrent cold waves frequently accompanied by damaging frosts and cane-killing freezes. Cane planted in summer and early fall on "cold" lands attains a stage of lush vegetative growth that is vulnerable to cold injury and may be killed completely. Ratoons following early harvest of mill cane may start growth during temporary warm periods between mid-December and mid-March and be killed back by cold several times before spring, resulting in depletion of underground reserves of buds or

(Continued on page 220)

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"eyes" and eventual stubble-stand failures.

Because of these severe climatic conditions, crosses for "cold" land areas involved vigorous varieties having a tough constitutional make-up. C.P. varieties apparently have a high concentration of genetic factors from two wild ancestors, *S. spontaneum* (Java) and *S. spontaneum* (India), and from two clones of *S. sinense* with vigorous stooling capacity, strong root systems, disease resistance, cold resistance, and stubbling ability under a range of unfavorable environmental conditions.

To get the desired agronomic qualities and hardiness in new varieties for "cold" land areas of southern Florida many of the superior new C.P. varieties were crossed with good-quality, free-flowering varieties from India, Australia, Mauritius, Java, Hawaii, and Florida (United States Sugar Corporation, Clewiston, Florida, and Florida State Everglades Experiment Station, Belle Glade, Florida).

In contrast to C.P. varieties, those from sources listed usually shed leaves freely; they are generally lower in fibre, in hardiness, in resistance to insect damage, cold injury, and diseases; juicier, larger in stalk diameter; and they are later maturing. It is expected that crosses between C.P. varieties and those more nobilized from other sources will produce superior varieties with good characteristics inherited from both sides, more hybrid vigor, and better agronomic qualities for "cold" land culture in Florida.

Sirup Area Crosses

Flowering of sirup-type breeding varieties was very poor; it was possible to make only 17 crosses between desirable parents having excellent growth habits, high Brix, and low purity. Good breeding varieties with this combination of characters are not plentiful, but more emhpasis is being placed on making selections of this type in the USDA variety development program in Louisiana, Florida, Mississippi, and Georgia.

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Seed Production

A seed is a ripened ovule containing an embryo. In the words of Orville L. Freeman, Secretary of Agriculture,[4] "seeds are ever a positive and creative force. Seeds are the germ of life, a beginning and an end, the fruit of yesterday's harvest and the promise of tomorrow's. Without an ample store of seeds there can be no national treasure, or no future for a Nation." These words may well be applied to the role true seed has played and will continue to play in the productivity of the sugar industry of the United States. The prosperity of the industry is closely associated with the performance of its varieties, each of which emanates from a single seed.

To insure the perpetuity of the sugarcane variety development program and the continuity of productive new commercial sugarcane varieties, hundreds of thousands of tiny new seeds are produced from crosses made each year at Canal Point. Table 1 shows that an estimated 737,677 viable seed were produced during the 1963-64 breeding season. If every seed were germinated, the industries of Louisiana, Florida, and the sirup-producing areas would have at their disposal 737,677 new kinds of sugarcane for experimentation in finding one or more new commercial canes as good or better than any variety now being grown. No two of all these hundreds of thousands of new seedling clones (varieties) would be exactly alike. Ten or more years are required to develop a good new sugarcane variety from a single, tiny, true seed and expand it to a sufficient quantity of vegetative "seed" cane for release to the industry.

The scarcity of important sugarcane varieties attests to the great disparity existing between the enormous numbers of seedlings now undergoing evaluation in the United States and

(Continued on next page)

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the rare occurrence of new commercial varieties which meet the minimum standards of excellence required by the industry. However, it is anticipated that the release of improved new sugarcane varieties for U. S. Mainland areas should be accelerated within a few years as a result of the expanded sugarcane breeding program. Much of the success of the program is due to the cooperation and financial support of the American Sugar Cane League and the Louisiana sugar industry.

[1] Research Agronomist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture.

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IN THE FIELD

(Continued from page 212)

Growers will be interested to learn that Mr. Preston Dunckelman, who has spent more than seven years working full time at the U.S.D.A. Canal Point Cane Breeding Station is finally coming back home to continue work in sugar cane research at the Houma Station. Mr. Dunckelman has done a most outstanding job of breeding sugar cane for Louisiana. Before going to Canal Point, Fla., Mr. Dunckelman was already well recognized as an authority on cane breeding having had many years of experience at L.S.U. Mr. Dunckelman increased the amount of seed produced annually from about 50,000 to more than 200,000 and in some years he produced more than a million seed. The techniques he developed while in Florida will almost insure the production of seed for the future. Growers are reminded that each true seed of sugar cane is potentially a new variety of cane. Large quantities of seed are most important today since a large percentage of the new varieties are very susceptible to the new strain of mosaic. The more varieties available for testing the better the chances are that a new variety will be found that is both resistant to mosaic disease and superior to C.P. 52-68 and C.P. 44-101 in yield of sugar and cane per acre.

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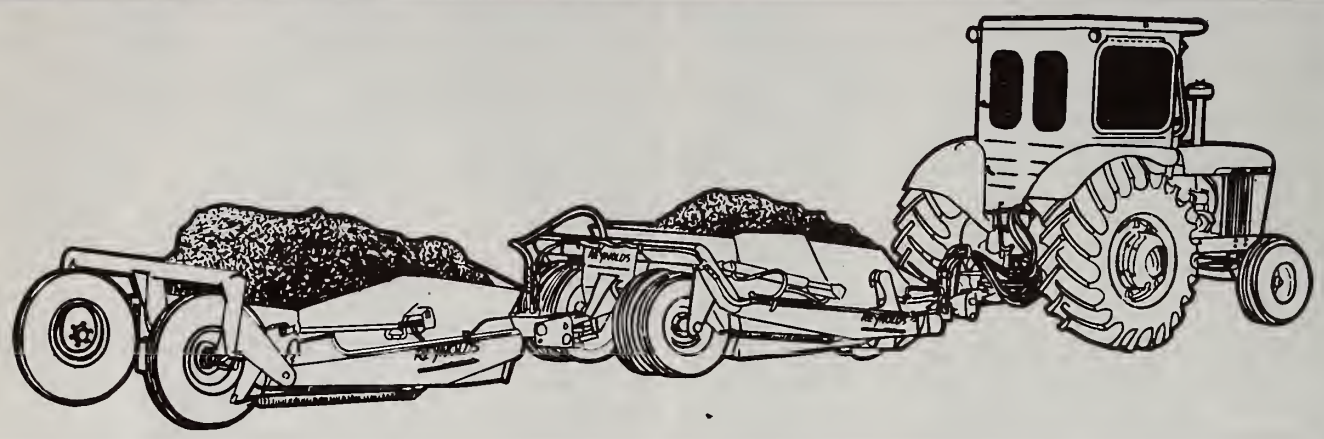

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THE SUGAR BULLETIN

l. 42 — No. 19 JULY 1, 1964

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE

SUGAR BULLETIN

414 Whitney Bldg., New Orleans, La. 70130

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Wage-Price Hearing

Attention is called to the Wage-Price Hearing to be conducted by the Government in the District Court Room of the Terrebonne Parish Courthouse, Houma, La., July 9th, beginning at ten o'clock in the morning. The Hearing is open to the public and all interested parties are invited to attend.

The official notice of the Hearing, which appeared on the front cover of the June 15th issue of *The Sugar Bulletin,* indicates that the "wage" part of the hearing is to be first on the agenda. Warren Harang, Jr., Chairman of the Employee Relations Committee of the League, will present the Industry's recommendations regarding fair and reasonable wage rates for harvesting and cultivation of sugar cane.

Thomas H. Allen has been unanimously selected by the Grower-Processor Committee to be their representative during the "price" part of the hearing. It is gratifying to note that, again this year, the growers and processors appear to be in agreement regarding the distribution of the proceeds from a ton of cane and will present a united front to the Government. The Grower-Processor Committee is not a committee of the American Sugar Cane League so we can't take credit for the harmony.

Production Report 1962--63 Louisiana Crop

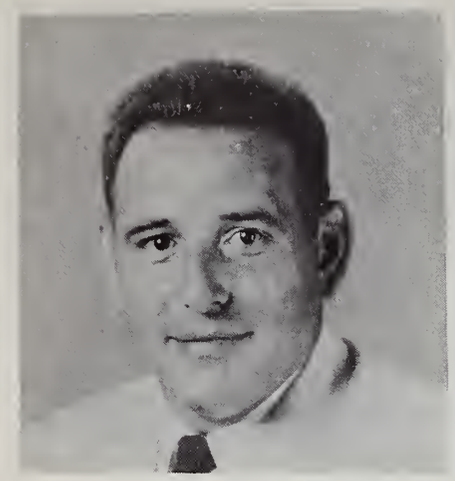
(Official USDA Report Dated June, 1964)

Raw Sugar, (96 test)	672,944 tons
Turbinados	12,573 tons
Granulated (Refined)	50,828 tons
Granulated (Plantation)	5,995 tons
Total (Actual Sugar)	742,340 tons
Total Sugar Production, Raw Value	759,473 tons
Net Tons Of Cane Ground For Sugar	8,554,103 tons

Cane Syrup	719,984 gallons
1st Molasses	1,902,267 gallons
2nd Molasses	783,117 gallons
Blackstrap (Actual Gallons)	54,067,578 gallons
Blackstrap (80 Brix)	60,302,273 gallons
High-Test Molasses	104,281 gallons

Note: Blackstrap production does not include 72,361 gallons estimated in process.

Net Tons Of Cane Ground For Syrup	26,580 tons



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The Sugar Cane Borer

Reports from growers, County Agents and the Entomologists of L.S.U. and the U.S.D.A. indicate the cane borer is now on the rampage and the infestation is much heavier than this time last year. A discouraging note to this fact is that the much needed rainfall, if forthcoming, will only help to increase the borer population according to Dr. Dale Newsom, Head, Department of Entomology, L.S.U. It is interesting to point out that Dr. Newsom hastened to add that although the borer population will probably increase with rainfall, the rainfall is necessary for cane growth.

Since the recommendations for the control of sugar cane insects appeared in *The Sugar Bulletin* another chemical, Thiodan 3% has been added to the list of recommended chemicals to control the borer. The required interval from the last insecticide application to harvest is 60 days. Thiodan should not be applied more than 4 times in a single season and fields should not be grazed and bagasse and tops of cane should not be fed to livestock. If Thiodan is formulated on clay granules use the material within 30 days of formulation.

There is a good chance that borers which have developed a resistance to endrin will have the same resistance to Thiodan. Growers should not assume that borers on their farm are resistant to endrin. Dr. Newsom says "Use endrin as long as it kills borers and go to another insecticide only when resistance is apparent." According to Dr. Newsom growers should not switch to another insecticide for the purpose of delaying resistanse to endrin at this time.

Growers should check fields more carefully than ever before during this season for at least three reasons. The first reason, that there is no need to spend more money than necessary, is self-explanatory. The second reason is that the unnecessary use of endrin and other insecticides will probably speed up the period when that insecticide will no longer kill borers. The third, which is of great importance today, is the fact that the unnecessary use of insecticides increases the chance of fish kills, and water contamination, with the resulting adverse publicity to sugar cane and agriculture. Growers, as they have in the past, should continue to exercise every possible precaution and instruct pilots to be extremely careful. To contaminate water or to kill fish will certainly create alarm at a period when pesticides are still receiving more than their share of unfavorable publicity.

The battle of pesticides is still being waged and as a matter of fact, Senator Abraham Ribicoff is holding another hearing in Washington, June 29-30 and the writer will probably testify at this or a later hearing on the value of pesticides to sugar cane in Louisiana. The loss of endrin and other pesticides would be a great blow to our industry.

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sugar Legislation Crystallizing

Congressional thinking on sugar legislation is beginning to "crystallize". The result probably will be a Joint Resolution drafted by Chairman Harold Cooley and the staff of the House Committee on Agriculture to amend the Sugar Act as follows:

1. To extend for one year the foreign provisions of the Sugar Act which otherwise would expire this coming December 31.
2. Suspend during the calendar year 1964 restrictions on the marketing of domestically produced sugar: the recommendation made by Secretary of Agriculture Freeman some months ago.
3. Place restrictions on the number of acres which may be planted to sugarbeets in 1965.
4. Eliminate the import or "premium recapture" fee on imports of foreign sugar.

The House Committee on Agriculture is expected to report out the Resolution and send it to the Floor soon after July 20 when the House of Representatives resumes its deliberations after its 10-day recess for the Republic National Convention.

Extending the foreign provisions of the Act for another year is not expected to draw fire in Committee—all factions agree that it must be done. Even Chairman Cooley who is bitterly opposed to the so-called global quota probably will advocate the temporary extension in order to have more time next year to lower the boom on it.

Marketing of domestically produced sugar in 1964 is expected to draw fire from the U. S. Cane Refiners Association but their representatives on the Committee are definitely in the minority. It is reliably understood that Government witnesses will strongly recommend that provision.

When it comes to the item regarding acreage restrictions for sugarbeets in 1965, we predict that the atmosphere in the Committee Room will be the hottest it has been since B. A. (before airconditioning). When several of the more vocal members of his Committee who represent sugarbeet producing districts "tee off", Mr. Cooley had better duck for cover. The level at which beet acreage will be curtailed has not yet been determined, so we are told, but regardless of where it starts or where it ends it is certain to evoke violent vocal outbursts on both sides of the Chair.

According to many members of the trade, the No. 4 item—elimination of the so-called premium recapture or import fee "makes sense". However, if it proves to be too controversial, it might be dropped in order to speed up passage of the remaining provisions.

Because of the extremely wide areas of disagreement on certain features of sugar legislation within the Government as well as within the domestic sugar industry, there is a strong possibility that no public hearings will be held. Chairman Cooley is reported to have said he already has heard everything anyone could say about sugar. We certainly agree with him that public hearings would only aggravate an already bad situation.

Quick action in the Senate is expected on the Resolution, although

(Continued on page 238)

THE LOUISIANA SUGARCANE VARIETY CENSUS FOR 1964

By Rouby J. Matherne, Research Agronomist, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

The 1964 sugarcane variety census for Louisiana was obtained as in the past with the cooperation of the County Agents of the sugar-producing parishes.[1] Research personnel are interested in industry acceptance of released varieties in each area of the sugarcane district of the State, and an annual census provides an opportunity to study trends in varietal utilization. Information of this type is extremely important, to those responsible for the breeding and variety testing programs, and is also of interest to growers since it assists them in evaluating their own varietal usage.

The total acreage included in this survey was 329,283 acres. This was based on proportionate share acres harvested for sugar and used for seed.[2] Percentages of the proportionate share acreage allotted to each area of the sugarcane district are: Southeastern, 47.01 percent, Southwestern, 34.21 percent, and Northern, 18.78 percent (table 1).

In 1963, C.P. 52-68 replaced C.P. 44-101 as the most extensively grown variety in Louisiana.[3] At that time it led C.P. 44-101 by 2.22 percent (table 2). This year it increased that lead to 12.57 percent and became the leading variety in all areas. In two parishes (St. Martin and Vermilion) it now occupies more than 50 percent of the acreage, while four parishes (St. Charles, St. John, Iberia, and West Baton Rouge) have less than 30 percent.

C.P. 44-101 occupies second place in the state and in each of the areas. The average of 25.5 percent of the acreage represents a drop of 3.15 percent from the 1963 census. One parish (Lafourche) reported 39.9 percent devoted to this variety.

N. Co. 310 is grown on 16.33 percent of the acreage and occupies third place in the state. It showed the largest decrease in acreage since the 1963 census, with a drop of 5.20 percent. The Southwestern area makes the most extensive use of N. Co. 310. Erratic stubbling and susceptibility to mosaic are causing many growers to reduce their plantings of this variety.

The percentage of the acreage devoted to each of the other varieties is relatively small and they must be considered secondary varieties. C.P. 48-103, however, is equal to N. Co. 310 in acreage in the Southeastern area, where it occupies 11.12 percent. Mosaic spread has now become a serious problem for most of the sugar-producing parishes. C.P. 48-103, with a combination of good mosaic resistance and early maturity in its favor, may receive increasing grower acceptibility in the other two areas in the future. Some growers are also finding it profitable to place more emphasis on other mosaic-resistant varieties, such as C.P. 47-193 and C.P. 36-13.

---

[1] The author is indebted to the following County Agents who supplied the information on varietal plantings in the various parishes: Stanley Angelle, C. J. Arceneaux, A. J. Brackin, Edward Burleigh, V. O. Calandro, Kermit J. Coulon, Sterling Deville, Kermit J. Ducote, Minus J. Granger, E. J. Lousteau, Ben Simpson, Claude Songy, Richard Sonnier, H. A. Webb, Murphy Veillon, and W. E. Williams. Mr. M. J. Eliser, manager of Waterford Plantation, and Mrs. Eddie Dufrene, owner of Dufrene Plantation, supplied information for St. Charles Parish.

[2] Anon. 1963. Proportionate share acres harvested for sugar. Yield of sugarcane per acre and yield of recoverable sugar per acre of Louisiana farmers participating in the sugar progr. by parishes from A.S.C.S. Reports. Sugar Bul. 41:266.

[3] Hebert, Leo P. 1963. The Louisiana sugarcane variety census for 1963. Sugar Bul. 41:204-207.

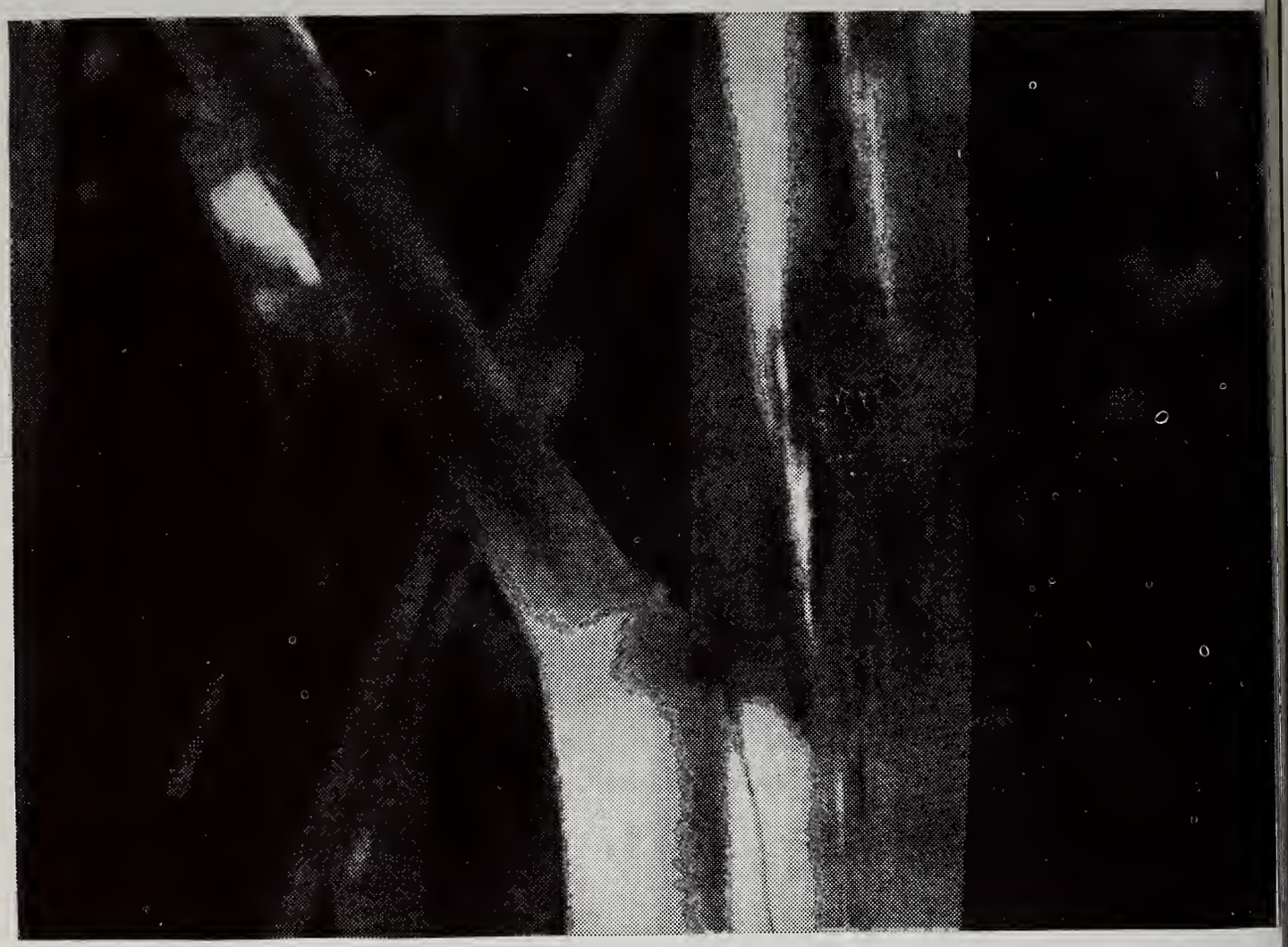
Table 1. Results of the 1964 Sugarcane Variety Census in Louisiana

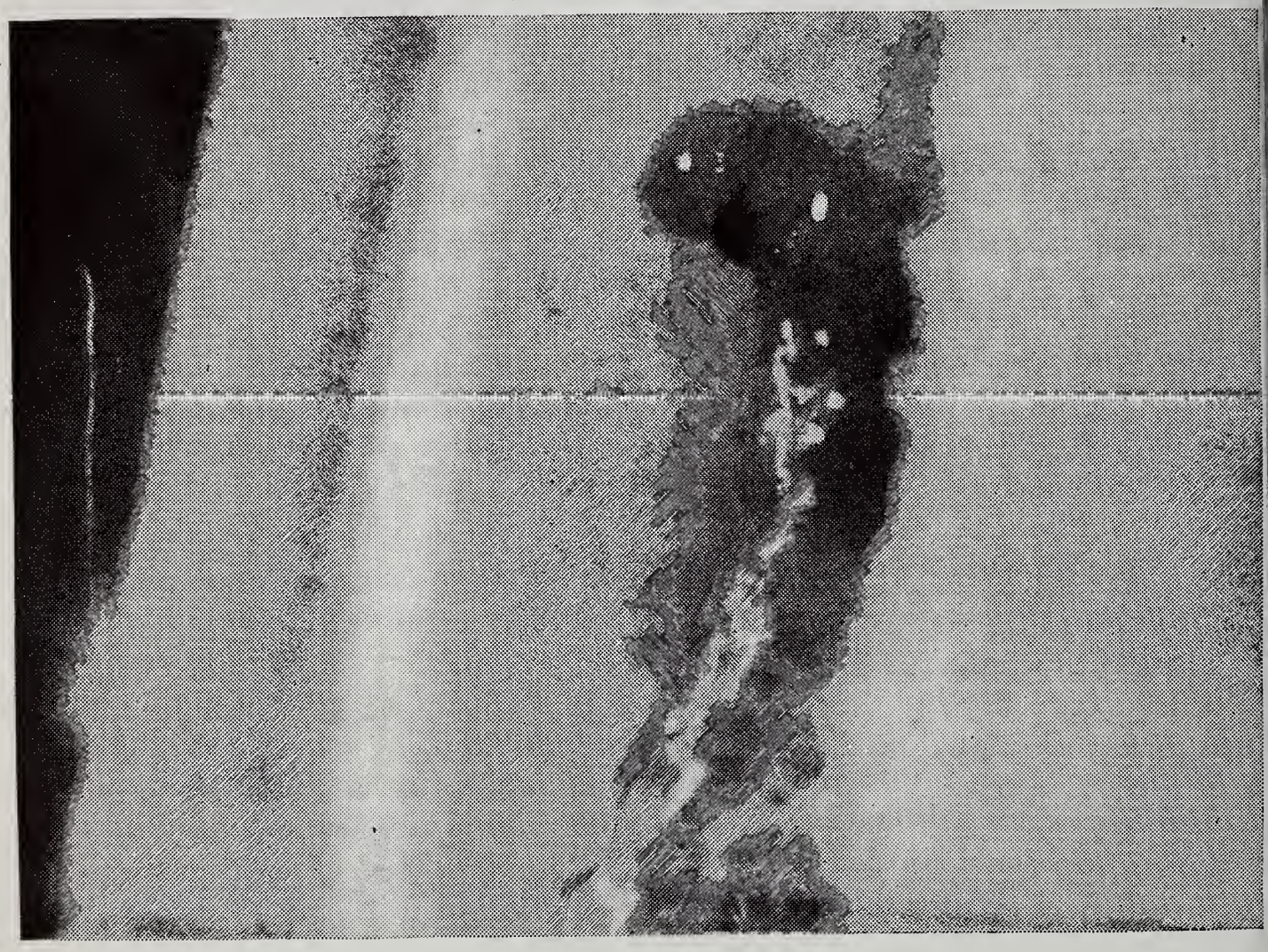
Varieties	Southeastern area 1/	Southwestern area 2/	Northern area 3/	Louisiana (total)	Change 1960-64	Change 1963-64
	percent	percent	percent	percent	percent	percent
C.P. 52-68	37.43	40.52	35.21	38.07	+35.27	+7.20
C.P. 44-101	28.76	24.87	18.47	25.50	-22.51	-3.15
N.Co. 310	11.08	24.23	15.08	16.33	- 4.70	-5.20
C.P. 48-103	11.12	1.43	7.22	7.07	+ 3.06	+1.43
C.P. 47-193	3.84	1.32	11.45	4.41	+ 1.69	+0.48
C.P. 36-13	2.06	3.42	1.69	2.46	- 0.16	+0.09
C.P. 36-105	1.34	0.40	6.53	1.99	- 8.33	-1.67
C.P. 44-155	0.82	2.18	1.26	1.37	- 3.26	-0.22
C.P. 43-47	1.83	-	0.67	0.99	- 0.84	-0.13
C.P. 55-30	0.45	0.41	0.07	0.36	+0.36	+0.36
Others	1.27	1.22	2.35	1.45	- 0.58	+0.81
Percent of State acreage:	47.01	34.21	18.78	100.00		

1/ Ascension, Assumption, Lafourche, St. Charles, St. James, St. John, and Terrebonne.
2/ Iberia, Lafayette, St. Mary, St. Martin, and Vermilion.
3/ Avoyelles, Iberville, Pointe Coupee, Rapides, and West Baton Rouge.

Table 2. Changes in the distribution of Louisiana sugarcane varieties for the 5-year period 1960-64 showing percent of the state acreage.

Variety	1960	1961	1962	1963	1964
	percent	percent	percent	percent	percent
C.P. 52-68	2.80	12.53	18.17	30.87	38.07
C.P. 44-101	48.01	38.11	35.36	28.65	25.50
N.Co. 310	21.03	24.96	23.63	21.53	16.33
C.P. 48-103	4.01	5.82	6.30	5.64	7.07
C.P. 47-193	2.72	3.24	3.62	3.93	4.41
C.P. 36-13	2.62	2.67	2.55	2.37	2.46
C.P. 36-105	10.32	6.84	4.32	3.66	1.99
C.P. 44-155	4.63	3.00	3.01	1.59	1.37
C.P. 43-47	1.82	1.43	1.34	1.12	0.99
C.P. 55-30	-	-	-	-	0.36
Others	2.03	1.39	0.78	0.64	1.45





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YIELD, NUTRIENT CONTENT AND FERTILIZER NEEDS OF SUGARCANE IN THE LOWER DESERT AREA OF CALIFORNIA

A. J. MacKenzie and K. D. Beatty[2]

Experimental plantings of sugarcane in the hot, dry, lower desert area of California have shown the crop to be well adapted to the environment. These studies have been made at the U.S.D.A. Southwestern Irrigation Field Station near Brawley, located in California's Imperial Valley. Good growth and high sugar yields have been obtained from several varieties using high nitrogen and phosphorus fertilization with frequent irrigations during the growing season.

Reliable information on the fertilizer and irrigation needs of the crop, however, is lacking and management practices to date have been determined from general knowledge of the crop as it is grown in other areas. To obtain information on fertilizer needs, plant samples on one of the most promising varieties (N.Co. 310) were taken from a number of varietal tests during the 1962 harvest season and analyzed for nitrogen and phosphorus. All other plant nutrients were considered to be adequately supplied by the soils and their analyses therefore were not made for this study.

Test Locations And Management Practices

Warren H. Brock (Brock Ranches East Mesa Research and Experimental Farm) — cooperator. Located 20 miles southeast of Holtville on U. S. Highway 80 at All American Canal Drop 2. Cane planted November 22, 1960 on 80-inch row spacing. Soil classed as Superstition loamy fine sand with a salinity level (electrical conductivity of saturation paste extract) of 0.9 millimhos/cm. for the 0-18″ depth. The crop (first stubble) was fertilized with a total application of 326 lbs. N/acre and 392 lbs. P_2O_5/acre. The fertilizer materials applied were calcium nitrate, diammonium phosphate and aqueous ammonia. Approximately 10 feet of water were applied to the crop in 41 irrigations. The last irrigation occurred October 11, 1962 and the cane was harvested December 5, 1962 from plots having an area of 1/384 acres. The data presented are averages of three replications.

U S D A Southwestern Irrigation Field Station. Located one and one-half miles south of Brawley on U. S. Highway 99 at Malan Canal, gate 5A. Cane planted December 7, 1961 on 60-inch row spacing. Soil classed as Holtville silty clay with a salinity level of 5.4 millimhos/cm. for the 0-18″ depth. The crop was fertilized with a total application of 360 lbs. N/acre and 100 lbs. P_2O_5/acre. The fertilizer materials applied were treble superphosphate, ammonium nitrate and aqueous ammonia. Approximately 5 feet of water were applied to the crop in 21 irrigations. The last irrigation occurred October 3, 1962 and the crop was harvested December 13, 1962 from plots having an area of 1/200 acres. The data presented are averages of four replications.

Nelson B. Correll—cooperator. Located 5 miles west of Calipatria at Vail Lateral 2A, gate 251. Cane planted November 22, 1961 on 60-inch row spacing. Soil classed as Rositas very fine sandy loam with a salinity level of 2.3 millimhos/cm. for the 0-18″ depth. The crop was fertilized with a total application of 385 lbs. N/acre and 96 lbs P_2O_5/acre. The fertilizer materials applied were treble superphosphate, ammonium nitrate and aqueous ammonia. Approximately 11 feet of water were applied

(Continued on page 236)

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to the crop in 21 irrigations. The last irrigation occurred October 2, 1962 and the crop was harvested December 13, 1962 from plots having an area of 1/200 acres. The data presented are averages of two replications.

Victor V. Vesey—cooperator. Located 2 miles north of Brawley on State Highway 111 at Spruce Lateral 3, gate 76. Cane planted December 5, 1961 on 68-inch row spacing. Soil classed as Holtville silty clay loam with a salinity level of 8.2 millimhos/cm. for the 0-18″ depth. The crop was fertilized with a total application of 347 lbs. N/acre and 147 lbs. P_2O_5/acre. The fertilizer materials applied were treble superphosphate and ammonium nitrate. Approximately 8 feet of water were applied to the crop in 31 irrigations. The cane was harvested November 27, 1962 from plots having an area of 1/85 acres. The data presented are averages of five replications.

Yield and Juice Quality

Yields and juice quality of the N.Co. 310 sugarcane grown at the four test locations are shown in table 1. Yields of net stalks per acre at three of the four locations ranged from 41 to 50 tons. The yield at the Veysey location was considerably lower, probably because of high soil salinity. Net stalk yield at all locations averaged about 68 percent of the total plant yield. Juice quality at the four locations was favorable for factory processing and a sugar production of approximately 8000 pounds per acre was attained except at the Veysey location.

Dry Matter, Nitrogen and Phosphorus Content

The percentage of dry matter, nitrogen and phosphorus in the sugarcane and the amount of nitrogen and phosphorus contained in the crop are shown in table 2. Dry matter percentage showed little variability and averaged 28 percent for the sugarcane at harvest. The nitrogen percentage of the dry matter ranged from 0.45 to 0.93 percent with the average being 0.61 percent. Likewise, the phosphorus percentage ranged from approximately 0.07 to 0.10 percent with the average being 0.08 percent.

The nitrogen and phosphorus contents of the crop were estimated from the total plant yield data and chemical analyses of the dry matter. Nitrogen content at the four locations varied from a low of 152 to a high of 229 pounds per acre and averaged 196 pounds per acre. Phosphorus content was relatively constant and averaged 25 pounds per acre for the crop.

Fertility experiments with other field crops have shown the soils of the area to be capable of contributing

(Continued on page 238)

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Table 1: Yields and juice quality of the N.Co. 310 sugarcane variety grown at four locations in the lower desert area of California in 1962.

Crop and location	Total plant yield per acre	Net stalk yield per acre	Crusher-juice analysis[1]			Indicated available 96° sugar[3]	
			RDS[2]	Sucrose	Purity	Per ton of cane	per acre
	tons	tons	%	%	%	pounds	pounds
First stubble: Brock	65.1	42.7	18.63	14.25	76.5	190.1	8,119
Plant cane: Field Station	61.9	41.3	15.22	12.64	82.7	176.8	7,303
Plant cane: Correll	67.9	49.6	17.05	13.11	76.0	175.5	8,715
Plant cane: Veysey	44.6	28.6	16.11	12.52	77.9	168.7	4,852

1/ A 10-stripped stalk sample was collected from each plot and crushed in a 3-roller mill for juice analysis.

2/ Refracted dry substance or % total soluble solids in juice.

3/ Indicated yields of sugar based on the crusher-juice analyses were calculated by the Winter-Carp: Geerlings formula.

Table 2: Dry matter, nitrogen and phosphorus content of the N.CO. 310 sugarcane variety grown at four locations in the lower desert area of California in 1962.

Crop and location	Dry Matter[1]	Nitrogen[2]	Phosphorus[2]	Nutrient in crop per acre	
				Nitrogen	Phosphorus
	%	%	%	pounds	pounds
First stubble: Brock	28.7	0.51	0.069	191	26
Plant cane: Field Station	27.4	0.45	0.068	152	23
Plant cane: Correll	28.3	0.56	0.071	214	27
Plant cane: Veysey	27.6	0.93	0.097	229	24
Average	28.0	0.61	0.076	196	25

1/ Dry matter (total plant material including leaves, sheaths and stalks) dried at 70° C. to constant weight. Data are averages of plots from all replications.

2/ Percent nitrogen and phosphorus in dry matter. Multiply percent phosphorus by 2.29 to convert to percent P_2O_5.

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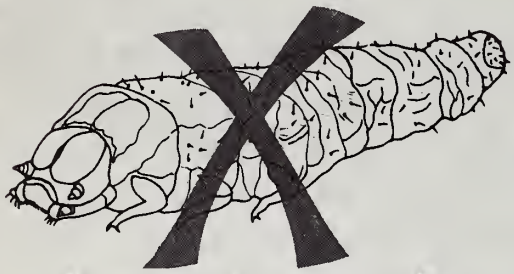

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New Orleans, Louisiana

75-100 pounds of nitrogen and 25-30 pounds of phosphorus per acre to an unfertilized crop. Also it has been found that only about 50 percent of the nitrogen fertilizer applied is utilized by a crop. Assuming that an equal amount of soil nitrogen would be available to sugarcane and that fertilizer nitrogen would be used as efficiently, it is likely that nitrogen applications of at least 250 pounds per acre would be necessary to insure high production. Stubble crops may need larger quantities of nitrogen since such a continuous cropping practice may deplete the nitrogen reserves in the soil. Supplemental phosphorus, in view of the soil's contribution, may not be necessary if previous crops have been well fertilized with this nutrient.

These estimates of the nitrogen and phosphorus fertilizer needs are based on several assumptions and the actual requirements of the crop for a particular location may differ to some extent. However, until reliable fertilizer tests are made to determine the crop's response to these nutrients, this information should be helpful in judging the needs of sugarcane in the area.

---

[1] Contribution from the Southwest Branch, Soil and Water Conservation Research Division and the Tobacco and Sugar Crops Research Branch, Crops Research Division, Agricultural Research Service, USDA.

[2] Research Soil Scientist and Research Agronomist, respectively, USDA, Southwestern Irrigation Field Station, Brawley, California.

—o—

IN WASHINGTON

(Continued from page 229)

Senators from some of the beet producing States may oppose 1965 acreage restrictions on sugarbeets. Whatever is done must be accomplished before August 20 when the Democratic leadership of the House and Senate plan a sine die adjournment just prior to the Democratic National Convention, August 24.

Kill sugar cane borers with Endrin!

Control sugar cane borers the proven, positive way! Apply 2% Endrin granules at a rate of 15 pounds per acre, at three week intervals. Start when at least 5% of the plants are infested with young larvae which have not yet bored into the stalks. The last application should be made 45 days before harvest. Do not feed bagasse or field trimmings from treated fields to livestock. Endrin can save your cane from border damage, and the cost of treatment is low in relation to the increased yields you'll get from protected cane. Order Endrin now!

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THE SUGAR BULLETIN

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in the interests of the Domestic Sugar Cane Industry

THE

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Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Stop-Gap Sugar Legislation

The past ten days in Washington have been quiet and delightful. The heat wave has been broken; the drought has come to an end with numerous summer showers; the House of Representatives is in recess until July 20 and activity in the Senate has been reduced almost to a snail's pace. The wiseacres who love to speculate on what will or will not happen to sugar legislation have gone somewhere else to do their speculating. Even the bitter feud between cane refiners and beet sugar boys seems to have bogged down because neither Irv Hoff nor Robert Shields has been quoted in the press recently. Tom Murphy, USDA's Director of the Sugar Policy Staff is on vacation. Yes, the past few days in Washington have been quiet and delightful.

But—one of our pessimistic friends over the luncheon martinis suggested that it was the lull before the storm. While we do not like to admit it, he could be right.

On July 17 USDA has called a hearing in Washington to set marketing allotments for 1964 on beet sugar mills. Such marketing allotments were last in force in 1961. Allotments were estabilshed for 1962 but were rescinded by USDA.

The so-called "stop-gap Resolution" which may be the only sugar legislation this year is reported to contain a provision which would require the Secretary of Agriculture to restrict beet acreage in 1965. Such a provision undoubtedly will be highly controversial, so much so that perhaps it may have to be deleted from the text of the Resolution. In that event we understand that the House and Senate Reports on the Resolution will contain a paragraph to the effect that it is the sense of Congress that beet acreage in 1965 and thereafter should be restricted.

Some observers say the July 17 hearing for beet and the August 7 hearing in New Orleans for mainland cane will officially put beet and cane processors and growers on notice that the end of the great domestic sugar expansion program is in sight.

The expansion of domestic cane and beet sugar production over the past several years was made during a period of abnormal conditions: the loss of Cuba as a major source of supply, world sugar shortages, unusually high prices and when no restrictions were imposed by the Secretary of Agriculture on either cane or beet acreages or marketing. During that same period Congress for one reason or another refused to consider the question of long-term sugar policy. The tendency on Capitol Hill has been to wait until a matter of days, sometimes hours, before the expiration deadline of existing legislation and then rush through a temporary "stop-gap" law which merely postponed until another year consideration of the real problems. Sugar legislation in 1964 will be another "stop-gap" measure.

If the domestic sugar industry is to exist, there must be a long-term, comprehensive sugar policy blueprinted by Congress, then both cane and beet interests could intelligently plan and develop their programs not only for the betterment of their respective industries but also for the welfare of national sugar consumers.

IN THE FIELD WITH LLOYD L. LAUDEN

by Lloyd L. Lauden

The 1964 Cane Crop

Most growers will agree that the 1964 cane crop was rather slow starting. Many growers were also concerned over the early heavy grass situation and at being somewhat behind in time on the application of fertilizer. However, by the time fertilization was completed, the crop had made excellent improvement in appearance and growers became more optimistic. The chemical weed control program had done a satisfactory job and the grass problem was generally under control. Stands were generally good in all areas. Some small amount of plant cane had to be plowed out in a few scattered areas and this was generally on the light sandy soils and not on the heavy soils. The few poor plant cane stands received on the light soil were caused not by freezes or water standing in the field but, in general, by the extended cool spring particularly where there was too much soil over the cane.

By the first week of May most growers were saying that this crop would be larger than the 1963 crop. During this period it was difficult to find one grower who would say this crop was somewhat worse than the crop of last year.

Then the drought came and many growers again became concerned. Cane began to suffer from lack of moisture. Growth almost stopped. The only time the crop looked pretty was very early in the morning. At noon cane leaves were completely rolled and the crop was certainly not impressive looking. If anything good can be said about the drought it is the fact that cane suckered well and probably established a deeper root system during this period. In the writer's opinion, cane which was laid by early suffered less from the drought than cane laid by late.

The drought was not generally broken until the last week in June. Within a week following the rainfall the crop took on a much better appearance and the growth rate improved. Although the writer knows that the drought has done some damage to the height of cane he is also aware of the amazing ability of the cane plant to make a rapid recovery following a drought period.

It is still much too early to predict the outcome of this crop but there are a few things about it which are encouraging. Stands are generally good throughout the belt and there are plenty of stalks on the row. The growth rate in all varieties has improved considerably and is now good.

The three major varieties in general used today have proven their ability to produce good yields per acre where stands are good, even in years when severe droughts have occurred. Growers are still optimistic about this crop and the writer continues to believe that it has an excellent chance of becoming a bumper one.

Cane Borers

Growers are again reminded to check fields more carefully than usual for cane borers this season before applying an insecticide. Don't waste money. Don't unnecessarily speed up resistance. Don't increase chances of fish-kills.

Insecticide application should be made only after joints have begun to form and whenever 5% or more of the plants are infested with young larvae feeding in or under the leaf sheath and which have not yet bored into the stalks. Growers should use *endrin* as long as it kills borers. *Don't switch to another insecticide* for the purpose of delaying resistance. Instruct pilots to take care to prevent fish-kills.

SEED CANE NOTICE

The Mosaic Control Committee, composed of representatives of L. S. U., the U. S. D. A. and the League, is again this year planning a program to make available to growers rogued and inspected seed cane of several commercial varieties.

The seed will be the progeny of heat-treated cane, rogued of mosaic disease by the co-operating plantations and inspected by the three agencies.

Below are listed the names of growers who are cooperating and the varieties which have been approved for roguing by the committee.

Allendale (West Baton Rouge)	C.P. 48-103
Warren Harang, Jr. (Assumption)	N.Co. 310, C.P. 44-101
Lula (Assumption)	C.P. 52-68
Howard Viator (St. Mary)	C.P. 44-101
A. V. Allain & Sons (St. Mary)	N.Co. 310, C.P. 52-68

The seed offered here is subject to a final inspection to be made by the Committee before being sold.

Although the final disease survey to be made will show the amounts of mosaic disease and stunting disease present in the seed, there is no guarantee expressed or implied that the plant cane from this seed will not have more disease than shown in the final survey.

Submit your request (blank below) to your *County Agent.* He in turn will submit this request to the League Committee and an allocation will be made. You will then be notified of the amount of cane you can purchase. Then upon receipt of your check for payment of cane, you will be issued an order stating time and place of pick up.

The deadline for your order will be Friday, August 14, 1964.

I hereby apply for:

_____ tons of C. P. 44-101
_____ tons of C. P. 52-68
_____ tons of C. P. 48-103
_____ tons of N. Co. 310

I agree to pay $16.00 per ton for this cane. My check will be sent in immediately upon receiving notice of my allocated amount.

I had_____acres of sugarcane in 1963.

This application is made with the full understanding on my part that it may not be possible for me to get as much cane as I apply for, owing to the limited supply.

_____ _____

Name **Address**

RESULTS OF DATE-OF-PLANTING EXPERIMENTS WITH SUGARCANE IN LOUISIANA 1960-63

By Rouby J. Matherne and Leo P. Hebert, Research Agronomists, Crops Research Division, Agricultural Research Service, United States Department of Agriculture

Introduction

Date-of-planting experiments with sugarcane varieties have been conducted at the U. S. Sugaracne Field Station, Houma, La., since 1927. In a long range study of this kind, there is need for re-evaluation of varietal responses from time to time. Because new varieties are being released every few years, information is needed on their response to planting dates in comparison with older ones. The census of sugarcane varieties grown commercially in Louisiana in 1963 [5] reflects recent changes in varietal utilization.

Results of date of planting experiments conducted at the Houma Station from 1927 to 1942 are reported in a series of papers by Arceneaux, and Arceneaux and Stevens.[1, 2, 3, 4] Arceneaux and Stevens [4] found that the best time to plant P.O.J. 213 was between September 20 and October 20. For varieties grown during the period 1927-31, Arceneaux [1] stated that "while other times of planting have proven unsatisfactory with some or all varieties, the period extending from the middle of October to the 10th of November has proven consistently satisfactory for planting all varieties". Varieties C.P. 807, C.P. 28-19, Co. 281, and Co. 290 responded well to early August plantings while the P.O.J. varieties 213, 234, and 36-M gave almost complete stand failures. In 1936, Arceneaux [2] said that "planting of varieties now in cultivation during late August or in September, particularly from late August to September 20 is considered exceedingly dangerous", but that early August plantings of Co. 290, Co. 281, C.P. 807, and C.P. 28-19 produced more cane per acre than those made during the usual fall planting period (late September to early October).

From a summary of results for the period 1931-41, Arceneaux [3] concluded that early August planting was satisfactory for C.P. 28-19 and Co. 290, and moderately so for C.P. 29-320 and Co. 281. Late August and early September plantings were unsatisfactory for all varieties except C.P. 28-19, which gave good results. Hebert and Matherne [6] found that on the average during the period 1952-58, C.P. 44-101 produced more cane and sugar per acre from early August than from October plantings, but there were exceptions. In the period 1956-58, for example, October plantings of this variety surpassed those made in August by 2.2 tons of cane per acre, per crop. Early October plantings of C.P. 36-105 yielded more cane per acre than early August plantings in all years, except for the 1955-57 crop years.

It is evident from the foregoing review that sugarcane varieties respond differently to dates of planting. The P.O.J. varieties did not give satisfactory yields from summer plantings; but when the Co. and C.P. varieties replaced them in the 1930's, plantings could safely be made much earlier, and summer planting became a regular practice in some areas of the Louisiana sugarcane district. As newer varieties replaced the older ones, the "unsafe" planting period from late August to early September was not applicable to some of them; and many growers found that with certain varieties once planting was started in early to mid-August, they could without stopping, weather permitting, until the entire acreage was planted. In recent years, however, some losses in stands have occurred in early plantings of some varieties. Results of date of planting experiments during the period 1960-63 are reported in this paper.

Methods

Four varieties were included in the 1960-63 experiments: C.P. 44-101, C.P. 52-68, N. Co. 310 and C.P. 55-30. The first three are presently the major varieties in Louisiana;[5] C.P. 55-30 was released for commercial culture in 1963. All experiments were conducted on light, alluvial, Mhoon silt loam soil. A split-plot design was used with dates of planting as whole plots and varieties as sub-plots. Subplots were approximately 1/120 acre, each replicated 4 times. The experiments included three dates of planting: August 1, September 1, and October 1. These dates did not vary unless planting was delayed by rain.

Results

Average yields of cane per acre, sugar per ton of cane, and sugar per acre, respectively, for three crop series, each consisting of plant cane and first stubble are shown in tables 1, 2, and 3. Based on an analysis of variance of the combined data, differences between dates of planting were not significant. There was likewise no significant interaction between varieties and dates of planting. The analysis of variance of individual experiments revealed a significant difference (data not shown) in favor of September plantings for the year 1960. Significant interaction between varieties and dates of planting was found for the years, 1960 and 1962. The September plantings of C.P. 44-101 in 1960 outyielded August plantings by 10.87 tons of cane and in 1962 by 5.35 tons. The September planting of C.P. 44-101 in 1962 yielded 13.6 tons of cane more than the October planting. A planting of C.P. 55-30 in September 1960 yielded 7.22 tons more than the August planting and 9.4 tons more than the October planting.

Although differences between planting dates were not significant based on the combined data, C.P. 44-101 produced 14 percent more cane per acre from the September than from the August plantings for the period 1960-63. Yields from October plantings exceeded those from August plantings by 10 percent. September plantings of C.P. 52-68 were only slightly better than August plantings; they exceeded the October plantings by 5 percent.

There was very little difference in yields of N. Co. 310 from different planting dates. Yields of C.P. 55-30 from September plantings exceeded these from August plantings by 7 percent and those from October plantings by 3 percent. Data for C.P. 48-103, another important commercial variety,[5] are not included in these averages because this variety was not planted in one of the series; however, in two series, there was little difference between dates of planting.

The yields in pounds of sugar per ton of cane show small differences between dates of planting. Generally, the cane planted earlier was slightly higher in sucrose. Yields of sugar per acre showed the same trend as those of cane per acre.

Discussion

As stated by Hebert and Matherne,[6] "the advantages of summer planting will have to be weighed against the disadvantages". Among the disadvantages they mentioned are the larger acreage required to provide seedcane for planting in August; the greater hazard of stand loss if an early freeze kills the young growth before the plants have become sufficiently established to survive the winter on their own roots; and the greater increase of borers in summer-planted cane. To these disadvantages would now be added the increased mosaic spread that occurs in early-planted cane. The principal advantage of summer planting is the better distribution of labor requirements for planting by extending the planting period over 6 to 8 weeks instead of compressing it into 4 to 5 weeks. A further advantage is that cane planted in August usually matures earlier than that planted in the fall.

Weather conditions during any year are important in determining varietal response to planting date. As pointed

(Continued on next page)

Table 1. Effect of date of planting on yields of cane per acre in tests of 4 varieties at Houma, La.; 1960-63 (plant cane + first stubble = 1 series)

Variety and month	Average yield of cane per acre				Percent of mean for all varieties and all dates
	1960-61	1961-62	1962-63	Average	
	tons	tons	tons	tons	percent
C.P. 44-101					
August	28.6	37.6	44.6	36.9	92
September	38.2	40.2	49.3	42.6	106
October	40.4	44.0	39.4	41.3	102
Average	35.7	40.6	44.4	40.3	100
C.P. 52-68					
August	29.6	40.6	45.3	38.5	95
September	34.1	38.1	45.8	39.3	98
October	32.0	40.7	39.8	37.5	93
Average	31.9	39.8	43.6	38.4	95
C.P. 55-30					
August	32.3	41.8	43.9	39.3	98
September	37.0	43.0	46.6	42.2	105
October	31.8	46.2	45.8	41.3	102
Average	33.7	43.7	45.4	40.9	101
N.Co. 310					
August	36.5	42.1	46.4	41.7	103
September	36.0	43.5	47.0	42.2	105
October	35.0	45.4	43.3	41.2	102
Average	35.8	43.7	45.6	41.7	103
Average of all varieties					
August	31.7	40.5	45.0	39.1	97
September	36.3	41.2	47.2	41.6	103
October	34.8	44.1	42.1	40.3	100

Differences between dates of planting and the interaction between varieties and dates of planting were not significant.

out by Arceneaux,[3] a freeze which kills the above-ground growth early in November often results in gappy stands of August-planted cane. This is caused by the depletion of food supply in the seedpiece and lack of sufficient roots on the new shoots to carry them through the winter. Gappy stands may also result from planting at any date due to low winter temperatures and deficient or excessive rainfall. Some stand losses occurred in plantings made during October 1963 when the soil was extremely dry.

Some growers plant part of their acreage in August as a means of better distributing labor requirements and avoiding the pressure of having to plant large acreages within a short

Table 2. Effect of date of planting on yields of sugar per ton of cane in tests of 4 varieties at Houma, Louisiana; 1960-1963 (plant cane + first stubble = 1 series)

Variety and month	Average yields of sugar per ton of cane				Percent of mean for all varieties and all dates
	1960-61	1961-62	1962-63	Average	
	pounds	pounds	pounds	pounds	percent
C.P. 44-101					
August	151.6	159.5	167.6	160.9	98
September	144.5	171.2	159.1	158.4	97
October	144.1	159.5	156.5	153.4	94
Average	146.4	163.3	161.3	157.3	96
C.P. 52-68					
August	164.0	168.5	175.5	170.1	104
September	165.8	167.7	169.4	167.9	102
October	167.1	167.5	174.6	169.9	104
Average	165.7	167.9	173.2	169.5	103
C.P. 55-30					
August	168.3	175.8	181.6	176.1	107
September	170.9	169.9	189.4	177.4	108
October	180.7	164.6	184.0	175.8	107
Average	173.2	169.8	185.2	176.6	108
N. Co. 310					
August	156.6	164.6	142.4	153.9	94
September	154.4	154.3	143.0	150.0	92
October	148.2	157.1	153.6	153.5	94
Average	153.3	158.4	146.0	152.4	93
Averages of all varieties					
August	160.4	169.5	166.7	165.1	101
September	158.8	165.6	165.0	163.2	100
October	158.8	162.0	167.4	163.1	100

* Weighted averages
Differences between dates of planting and the interaction between varieties and dates of planting were not significant.

period just before the beginning of the harvesting season. The data indicate, however, that the bulk of the planting should be done in September. All of the varieties tested during the period 1960-63 gave highest yields from early September plantings. A hazardous period (late August-early September) seemed to have existed for some of the varieties formerly grown,[2] but for the present commercial varieties this is not evident. If a proper seedbed can be prepared, once planting has started, either in August or early September, there is

(Continued on next page)

Table 3. Effect of date of planting on yields of sugar per acre in tests of 4 varieties at Houma, La.; 1960-1963. (plant cane + first stubble = 1 series)

Variety and month	Average yields of sugar per acre				Percent of mean of all varieties and all dates
	1960-61	1961-62	1962-63	Average	
	pounds	pounds	pounds	pounds	percent
C.P. 44-101					
August	4336	5998	7474	5936	90
September	5520	6881	7842	6748	102
October	5822	7016	6168	6335	96
Average	5226	6632	7161	6340	96
C.P. 52-68					
August	4855	6841	7948	6548	99
September	5653	6390	7758	6600	100
October	5348	6819	6948	6372	96
Average	5285	6683	7551	6507	99
C.P. 55-30					
August	5436	7348	7974	6919	105
September	6324	7306	8825	7485	113
October	5747	7604	8425	7259	110
Average	5836	7419	8408	7221	109
N. Co. 310					
August	5715	6928	6606	6416	97
September	5560	6713	6722	6332	96
October	5188	7132	6650	6323	96
Average	5488	6924	6659	6357	96
Average of all varieties					
August	5085	6779	7500	6455	98
September	5764	6822	7787	6791	103
October	5526	7143	7048	6572	99

Differences between dates of planting and the interaction between varieties and dates of planting were not significant.

no need to stop until it is completed. However, only varieties that respond well should be chosen for summer planting. Completing planting before harvesting begins is highly desirable.

C.P. 52-68, N. Co. 310, and C.P. 48-103 gave the best response to August plantings; however, C.P. 52-68 and N. Co. 310 are susceptible to mosaic, and control of this disease must be considered in summer planting. Zummo [7] found greater spread of mosaic in early-planted than in late-planted cane. Where mosaic control is a problem, susceptible varieties should not be planted in August. C.P. 55-30 should not be planted in August because of mosaic susceptibility as

NOTICE OF HEARING ON PROPOSED MARKETING ALLOTMENT

Pursuant to the authority contained in the Sugar Act of 1948, as amended (61 Stat. 922, as amended) and in accordance with the applicable rules of practice and procedure (7 CFR 801.1 et seq) and on the basis of information available to me, I do hereby find that the allotment of the 1964 sugar quota for the Mainland Cane Sugar Area is necessary to prevent disorderly marketing and to afford all interested persons an equitable opportunity to market sugar, and hereby give notice that a public hearing will be held in New Orleans, Louisiana, August 7 at 9:00 a.m. local time at the Monteleone Hotel,

The purpose of this hearing is to receive evidence to enable the Secretary of Agriculture to make a fair, efficient and equitable distribution of the above-mentioned quota for the calendar year 1964 among persons who process and market sugar produced from sugarcane grown in the Mainland Cane Sugar Area. The preliminary finding made above is based upon the best information now available. It will be appropriate at the hearing to present evidence on the basis of which the Secretary may affirm, modify, or revoke such finding and make or withhold allotment of any such quota in accordance therewith.

In addition, the subjects and issues of this hearing include (1) the manner in which consideration should be given to the statutory factors as provided in Sec. 205(a) of the Act, and (2) the manner in which marketings within allotments shall be restricted.

This Notice of Hearing also constitutes notice that at such hearing it will be appropriate to present evidence on the basis of which the allotment of the quota or proration thereof may be revised or amended by the Secretary for the purpose of (1) allotting any increase, or decrease, in the quota; (2) prorating any deficit in the allotment for any allottee; and substituting revised estimates of final data for estimates of such data wherever estimates are used in the formulation of an allotment of the quota.

Issued at Washington, D. C., this 1st day of July, 1964.

well as the relatively lower yields produced from summer plantings.

The favorable response of C.P. 44-101 to early August planting reported by Hebert and Matherne [6] did not occur in the 1960-63 experiments. Current data show that C.P. 44-101 should not be planted in August; observations in many commercial fields during recent years also indicate that reduced yields and occasional stand failures resulted from August-planted C.P. 44-101.

October plantings yielded slightly higher than August plantings. C.P. 52-68 showed the poorest response to October plantings. C.P. 44-101, C.P. 48-103, C.P. 55-30, and N. Co. 310 may be planted in October although the yields are not as high as from September plantings. N. Co. 310 was least affected by the different dates of planting.

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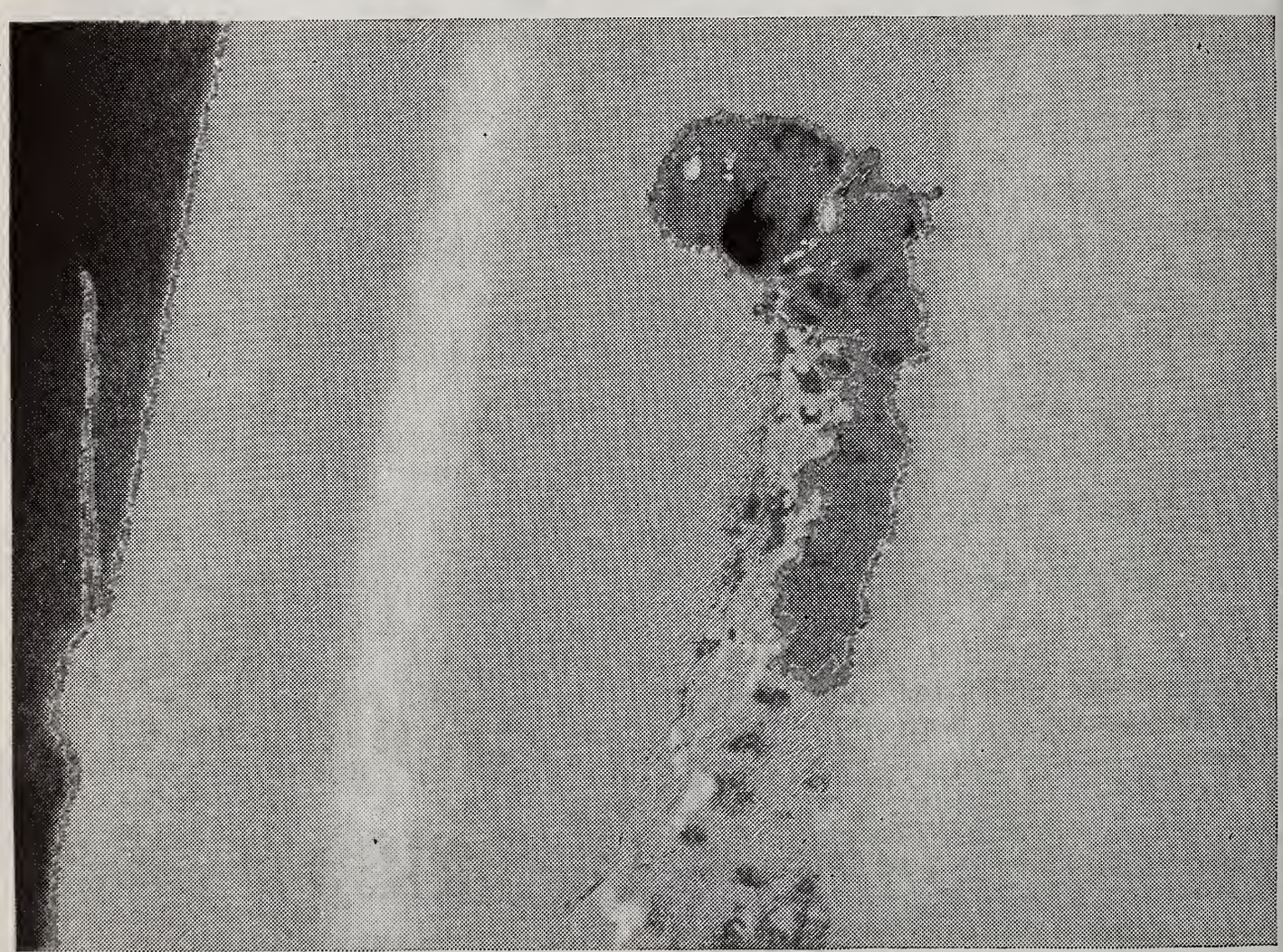

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FLORIDA SUGARCANE SEEDLING PROGRAM FROM CROSSES AND SEED PRODUCED AT CANAL POINT, 1957-1964

By E. R. Rice and P. H. Dunckelman[1]

The Florida sugarcane seedling program which utilizes true seed produced at Canal Point, is a cooperative undertaking of the U. S. Sugarcane Field Station, Canal Point, Florida; the Everglades Experiment Station, Belle Glade, Florida; the Okeelanta and Fellsmere Divisions of the Okeelanta Sugar Refinery, Inc., Okeelanta, Florida; and the Sugarcane Growers Cooperative of Florida, Belle Glades, Florida. Thousands of tiny sugarcane seed are produced annually at Canal Point by crossing selected parent varieties under favorable temperature and moisture conditions inside a tall, specially designed greenhouse to develop multi-million dollar commercial varieties for Florida and other areas.

Improved facilities, better breeding methods, and mass production of large quantities of seed from a wide range of high-quality crosses for Florida[2,3] have provided means for expanding the sugarcane seedling program; greater numbers of seedlings are available to determine their adaptability to soil types and climatic conditions in the sugar-producing areas of south Florida.

Seed from Crosses for Florida

A good variety improvement program is based primarily on a continuous supply of seedlings from high-quality crosses that can be evaluated under prevailing growing conditions; such a program (adequately staffed and financed) is the backbone of the sugar industry.

Table 1 shows that 682 crosses for research and development in Florida have been completed at Canal Point since 1957, and 1,479,052 (estimated) viable seed have been produced. These crosses were made with parent varieties having unusually desirable characteristics or combining ability required to transmit good qualities to their progenies.

Parental varieties used in crosses for Florida include a broad selection of male-sterile (female) and male-fertile (male) types with diverse genetic backgrounds. Many parent varieties are high in sucrose or vigor and inherently tolerant or resistant to diseases, insect pests, and frost damage. Crosses are also made between a wide range of agronomic types that possess strong root systems, low fiber, satisfactory juice quality, acceptable barrel size, strong ratooning characteristics, and good tops. A carefully planned and coordinated system of crossing, selecting, and backcrossing will concentrate good characteristics in new, superior, sugarcane varieties.

In addition to more than 358,000 seedlings evaluated in Florida since 1957, approximately 150,000 viable seed from crosses for Florida were sent to the Agricultural Experiment Station, Rio Piedras, Puerto Rico, for selecting and testing in that area. More than 90,000 viable seed are now in cold storage at Canal Point for experimental purposes and future use in the sugarcane seedling program for Florida. Another 880,000 viable seed and seedlings were lost, discarded, or died because of: 1) mechanical failure of a deep freezer in which 250,000 viable seed were stored; 2) limited greenhouses for culture of young seedlings; 3) shortage of field space; and 4) too few technical personnel and laborers to effectively process and evaluate the increased supply of available seed from crosses made in a controlled environment.

Germination and Care of Seedlings

Germination of seed and care of seedlings in the greenhouse require precise care in soil sterilization, planting, regulation of temperature, watering, fertilization and control of disease-producing soil organisms,

TABLE 1.--Sugarcane crosses, seed and seedlings produced for the sugar industry of Florida, 1957-1964

Crossing year	Crosses	Viable seed	Seedlings processed		
			Units to field [2]	Seedlings to field	New C.P. assignments
	Number	Number	Number	Number	Number
1957-58	48	77,974	34,777	53,653	514
1958-59	103	324,832	28,141	84,788	111
1959-60	51	21,215	37,513[3]	80,023[3]	125
1960-61	182	449,336	35,808	48,048	117
1961-62	158	424,627	26,068	27,168	95
1962-63	37	53,664	10,068	31,744	[4]
1963-64	103	127,404	22,573	33,539	[5]
Total	682	1,479,052[1]	194,948	358,963	962
Average per year	97	211,293	27,850	51,280	192

[1] Includes seedlings in germination test-plantings of 2,328 crosses for Florida, Louisiana, Mississippi, and Georgia.

[2] Includes single seedlings and bunches of 3, 5, or 7 seedlings per unit.

[3] Includes seedlings from stored seed of 1958-59 crosses.

[4] To be assigned C.P. numbers in fall, 1964, or later.

[5] To be assigned C.P. numbers in fall, 1965, or later.

mice and insect pests, pruning, space-planting in flats, and hardening off.

Limited greenhouse space at Canal Point made it necessary to make two plantings of seed to get 51,280 (average) seedlings each year for the seedling program, 1957-64. Space-planting that many seedlings to standard size (15½" x 21½") metal flats requires 600 flats. Bench space in the small seedling greenhouse can accommodate 138 flats at one time; only a fraction of the seedlings can be space-planted in flats, and usually none are potted. The lack of space in the greenhouse influences the overall seed-planting operation and is a limiting factor of primary importance in the sugarcane seedling program in Florida.

In the spring of 1964, temporary use was made of eight railroad carts of the crossing facility to provide additional space for seedlings. Many thousands of new seedlings were space-planted in singles and bunches in flats of sterlized soil and placed on

(Continued on next page)

the carts; the carts were rolled outdoors in good weather to condition the tender seedlings during early growth.

Long-range plans indicate the feasibiilty of expanding the facilities of the sugarcane seedling program for Florida to the equivalent of those recently described by Breaux[1] for Louisiana.

The first lots of seed from selected crosses for Florida are planted in flats of steam-sterilized organic soil (muck) during late January or early February. Seed for planting are carefully selected from the best crosses available; they may be fresh seed harvested only 1-2 weeks before planting or seed kept in cold storage (—30°C.) for several years. The second planting is generally made in May; seed for this planting are always taken from cold storage. Each year's seed are stored within 2 weeks after harvest because they lose viability rapidly at room temperature.

Metal flats are filled to 3/4-inch of the top with sterilized muck that is firmed down with a tamping tool to make smooth, level seedbeds. If the soil is very dry, surfaces of the seedbeds are sprinkled with water to hold the soil in place when the fuzz is spread. As the number of viable seed varies from cross to cross germination tests are run in advance) the fuzz is spread to get enough viable seed in each flat to produce 200-300 seedlings. More than 300 seedlings per flat results in crowding and root binding, that cause many seedlings to die and others to become weak and spindly.

A predetermined quantity of fuzz from the crosses (based on germination tests) is weighed for planting; each lot of fuzz containing the viable seed is spread evenly over the surface of the soil in the flats. The fuzz is sprinkled with water to flatten it down firmly against the soil; it is covered by hand with finely screened soil, leaving some fuzz slightly visible The surface of the seedbeds is again sprinkled with water. Fiberglass covers are placed over the tops of the flats to keep the seedbeds from drying out and to hold the surface temperature of the soil at a high level (80° - 100° F.) to enhance rapid germination of the seed.

During the germination period tempratures in the greenhouse and in the covered flats are watched carefully. From 10:00 A.M. to 4:00 P.M., the greenhouse temperature is held below 100° F. by ventilation; and the temperature on the surface of the seedbeds is held below 110° by removing the fiberglass covers from the flats. The seedbeds are kept constantly moist until the green points (coleoptiles) of the young seedlings begin to appear after the second or third day, then the fiberglass covers are removed permanently to prevent scalding. After the young seedlings become well establsihed, water is applied sparingly to lessen the possibility of water logging and to stimulate root development.

During germination of the seed and establishment of the seedlings and thereafter, the plantings are closely observed for disease and insect damage. At the first signs of damping off caused by Pythium or other soil organisms, the affected areas (and sometimes the entire plantings) are dusted liberally with a fungicide such as Spergon.[2] Spot infestations of cutworms are controlled by applications of DDT[2] and general infestations of mealy bugs, yellow aphids, and mites are killed by contact and fumigant action with an organic phosphate insecticide such as Systox.[2] Mice damage in seedbeds and flats of very young seedlings is checked by: 1) covering flats with fiberglass covers at night; 2) keeping greenhouse tightly closed at night; and 3) using a rodenticide containing 0.025 percent Warfarin.[2]

Because of the World Collection of Sugarcane Varieties and related grasses and the danger of spreading the mosaic virus under field conditions, no inoculation work is carried out in greenhouses at Canal Point on young sugarcane seedlings. Some

(Continued on page 258)

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inoculations were made at Belle Glade on seedlings in flats before transplanting to the fields. Mosaic-infected seedlings were discarded from flats under supervision of the plant pathologist.

When the seedlings growing in flats in the greenhouse are about 5 weeks old, trimming and fertilization begin. The leaves are trimmed with scissors or hedge shears to within 1-2 inches of the spindles every 7-10 days to keep the seedlings from getting spindy and weak. During this time a complete liquid fertilizer (10-10-10, N.P.$_2$O$_5$, K$_2$O, + minor elements) is mixed with water at the rate of 1-100 and applied with a watering can with sprinkler attached or with a hand-operated garden sprayer equipped with an adjustable spray deflector and a jet metering stem to control the amount of fertilizer applied.

When 2 to 3 months old, some seedlings are separated from the most crowded flats and space-planted, 108 hills per flat, either in singles or in bunches of 3, 5, or 7 seedlings. The majority of the seedlings are left undisturbed in the flats where they originally germinated. After transplanting, some of the flats of seedlings are placed outside and some are placed between cans of breeding canes on the carts of the breeding facility to begin hardening off in preparation for planting in field nurseries. The trimming and fertilization are continued until the seedlings are transplanted to the fields.

Seedling Nurseries

When the seedlings are about 3½ months old, they are moved to the field for transplanting in "Original Stool" nurseries. These nurseries are located on different soil types at four locations. At Fellsmere, Florida, 70 air miles north of Canal Point, where freezes frequently occur, the original seedlings are planted on sand. Under these conditions, it is possible to select for frost resistance and sand-land adaptability in the first screening. At the Everglades Experiment Station, in the cold area away from Lake Okeechobee, the seedlings are planted on sawgrass peat. At Canal Point, they are planted on custard apple muck in a practically frost-free zone. Near the mill of the Sugarcane Growers Cooperative of Florida, at Belle Glade, the seedlings are planted on willow-and-elder peaty-muck soil in the marginal area between the warm and cold zones southeast of Lake Okeechobee. The adaptability of seedlings in early stages of development for meeting the requirements of a specific area can be assessed more quickly if they are grown

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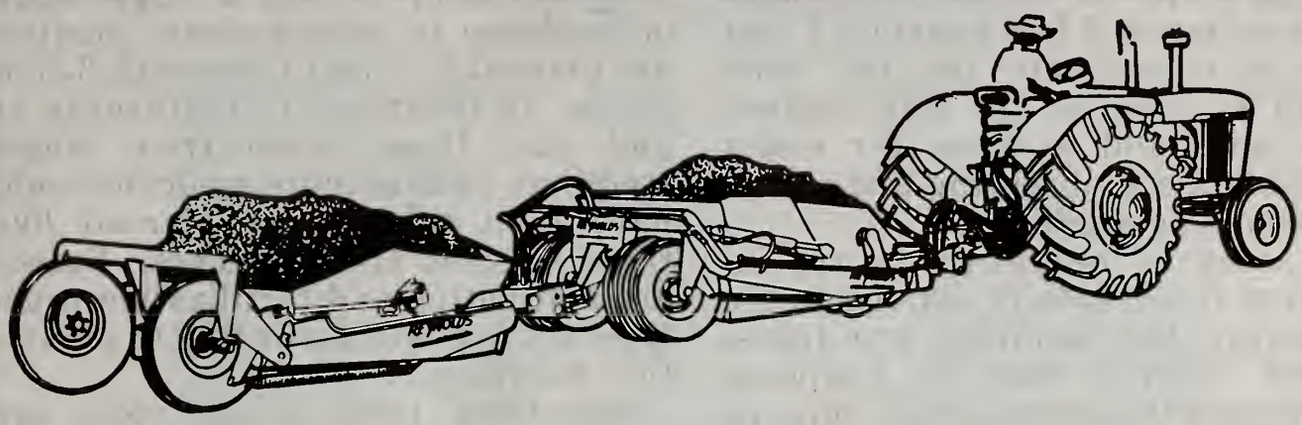

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and tested under the environmental conditions of that area.

The seedlings are removed from the flats and separated by hand at the field nursery sites. Identity of each cross is carefully maintained. At Fellsmere and Belle Glade, the seedlings are transplanted 18 inches apart on rows spaced 4½- and 5 feet, respectively, to conform with equipment used to set up rows and cultivate the crop. At Canal Point, seedlings are spaced 2 feet apart on 7-foot rows to compensate for the rank growth of cane on the rich custard apple muck and to allow for easier accessibility for observing and selecting promising seedlings.

In areas of heavy wireworm infestation insecticide is applied to the soil before the seedlings are transplanted. This is done by knapsack sprayer and the insecticide is sprayed in and around each freshly-punched hole just before the seedlings are set to the field.

After the seedlings are transplanted to the field at Fellsmere and Belle Glade, overhead irrigation is used to help the seedlings become established. At Canal Point, transplating of the seedlings is usually accomplished under ideal conditions of soil moisture during a wet period after start of the rainy season.

When the seedlings become well established (after about 2 weeks), cultivation is done as needed until the seedlings are laid by. Cultivation consists mainly of some hand-hoeing, scratching at intervals with a combination disc attachment and springtooth harrow, and blanket or spot applications of chemicals recommended for control of weeds.

Selections are generally made in late fall. The criteria for screening original stools of seedlings are stalk size and solidness, stooling, growth, erectness, Brix, desirable tops, freedom from mosaic and other diseases, self-stripping of leaves and sheaths, and freedom from spines. At Canal Point, these selections are generally made in plant cane to utilize effectively the limited land area of the Experiment Station. At Fellsmere and Belle Glade in the colder lands, selections are made in first ratoons to facilitate the selection of new varieties with ratooning ability and cold resistance.

Line Tests

Immediately after selection or as soon as practical, the new clones (varieties) are planted in line tests. Selections made from bunches (where it is necessary to take a single stalk of seedcane to assure clonal purity) are planted in 3-foot plots with 3-foot alleys. In deference to uniformity of plot size, those taken from single seedlings (where more seedcane could have been taken) are planted like those selected from bunches. Standard cultivation and fertilization practices are followed according to plantation methods.

Selections from clonal plots are made in late fall following the original stool selections. At this stage of screening, primary emphasis is placed on type, vigor, early maturity, and high sucrose. Before 1961 6-stalk random samples for small mill analyses were taken from clones meeting acceptable selection standards. Similar samples were taken from standard commercial varieties interplanted throughout the nursery as controls. Because of the large number of clonal plots now being estabilshed, more reliance is currently placed on the use of the hand refractometer in first screenings for Brix readings, with follow-up mill samples on the most promising new clones.

Extended Line Tests

The most outstanding clones are planted in extended line tests generally involving three rows, 20 feet

(Continued on page 262)

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long. Throughout the growing period, new varieties in these line tests are carefully observed for the desirable qualities mentioned earlier. At maturity, these plots are harvested and weighed; and 10-stalk samples are taken for mill-judce analyses for determination of Brix, apparent sucrose, and purity. On the basis of this information, relative yields of cane and sugar per acre are calculated.

Finally, the most promising varieties are planted in the outfield replicated variety tests. This is the final stage of testing before releasing new varieties for commercial production.

[1] Research Agronomists, Crops Research Division, Agricultural Research Service, United States Department of Agriculture.

[2] The mention of specific trade names is made for the purpose of identification and does not imply any endorsement of the U. S. Government.

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

The Wage-Price Hearing

The Government Wage-Price Hearing was held on July 9th on schedule in the Terrebonne Parish Court House, Houma, La. with Ward S. Stevenson and W. N. Garrott doing their usual fine job of representing the Government. We reported in the last issue of *The Sugar Bulletin* that the Louisiana growers and processors were in accord regarding the recommendations the Grower - Processor Committee would make covering the Fair Price Determination, and this turned out to be the first order of business.

Thomas H. Allen represented the Grower - Processor Committee and read a brief prepared for the occasion. It recommended that the Louisiana Pricing Period for both sugar and blackstrap molasses begin this season on Friday October 2, 1964 and end on Thursday, May 13, 1965. This is a period of thirty-two weeks and is approximately two and a half months longer than usual. The growers and processors reasoned that it will probably take a seven and a half month selling season to dispose of this year's crop in an orderly fashion.

Warren J. Harang, Jr., Chairman of the Employee Relations Committee of the American Sugar Cane League, was the main industry witness at the Wage part of the Hearing. He recommended a continuation of the present basic wage rate minimums for Louisiana sugar cane field workers stating that "beginning in 1959 through 1963, exclusive of bonus, our harvesting minimum rates have been increased 30 cents per hour and our production and cultivation minimum rates have been increased 35 cents per hour. We now have a cumulative affect of those increases in our present determination. There are no facts which justify a further increase at this time. In fact, there is no way the cumulative affect of those increases in recent years I have mentioned can be justified under present conditions. However, we do recommend that the basis rates presently established be maintained." The recommended minimum hourly wage rates for harvesting are: harvester and loader operators $1.05 per hour; tractor drivers, harvester bottom blade operators, and hoist operators $1.00 per hour; hand cutters 90 cents per hour; scrappers behind loaders 90 cents per hour; all other harvesting workers 85 cents an hour.

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in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

The Old Mule

Every time we look at our Old Mule we come up with an acute case of melancholia. When we remember what a proud beast he was last year soaring around with the man-to-the-moon boys, we get a lump in our throat and

July 29, 1964	
Price Objective Under Sugar Act	$6.63
Raw Sugar Spot Price 7/29/63	$6.20
Deficiency In Price	$0.43

tears in our eyes. Today he is a beat-up picture of despair, strictly earth-bound and is, in fact, having a hard time staying away from the submariners with whom his foreign cousin, (the one who led the sky-rocketing binge last year) is already hobnobing. The time has come for the WSBT (Washington Sugar Brain Trust) boys to activate their cerebral motors. The Old Mule needs some help in a hurry.

Trouble

Speaking of trouble, it looks like Mr. Julio Lobo who, before Castro, the world knew as "Mr. Sugar", is having his. The following quote is from the July 24, 1964 issue of The *Wall Street Journal.*

"Two sugar companies owned by the family of Julio Lobo, once the world's largest sugar dealer, filed petitions in Federal district court (New York) for protection from creditors under Chapter 11 of the Federal Bankruptcy Act."

"This immediately led to the suspension of one of the companies, Galban Lobo Co., Ltd., a Bahamian corporation, by the New York Coffee and Sugar Exchange."

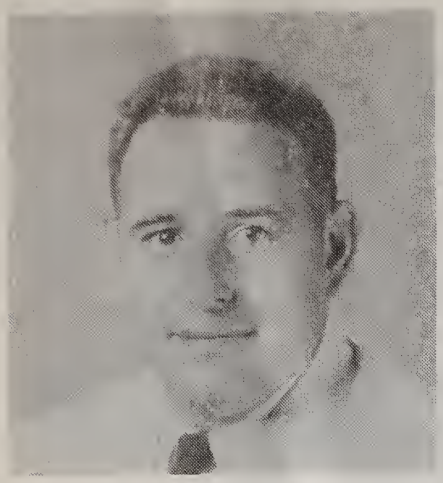
"The other petitioner is Olavarria & Co. The two companies handled more than 20% of all U. S. Sugar imports in 1963. Lobo affiliates in other countries are not involved in the petition."

The Wall Street Journal article goes on to explain that, according to the petitions, the two companies bought sugar at high prices early this year and were caught when the price tumbled. Olavarria & Co., lists its assets at $22,878,970 and its liabilities at $29,608,520. The Galban Lobo Co., Ltd., lists assets at $15,479,722 and liabilities at $9,273,185. There is much gossip going the rounds about the status of the other concerns of which Mr. Lobo is the guiding light. It is, however, too early to know what the outcome will be and all interested parties will have to await developments.

Seim To Pacific

Mr. James M. Ferguson, President of the Pacific Molasses Company, has announced that Mr. Rudd G. Seim has been appointed a Vice-President of the big molasses distributing company to succeed Bascom Doyle as Gulf Area Manager. The announcement says that Mr. Seim will make his headquarters in New Orleans where he will be assisted by Mr. John A. Cummins.

(Continued on page 278)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Planting Time

There is no other operation on a cane farm more important than planting the crop and growers should start now to make plans and arrangements for this big job. In addition to land preparation and grass control between now and the time planting starts, growers have many other important matters to attend to before the seed can be placed in the furrow and covered.

There is hardly ever any excuse for major equipment trouble at the start of the planting operations. Wagons, tires, tractors, harvesters, and loaders should have already been repaired in anticipation of this big job. Regular farm labor can be used to do most of these jobs during slack labor demand periods.

Growers should give serious consideration to what varieties should be planted. Some thought should be given to the placement of varieties with respect to soil type. Elsewhere in this issue of *The Sugar Bulletin* is an article on variety recommendations. Growers should find these recommendations helpful. Every effort should be made to plant the best seed available from the standpoint of mosaic and stunting disease. Research has shown that these two diseases reduce cane yields. Growers have learned that it pays to select seed free of borers and Johnson grass and this practice should be continued.

It is important to point out that the cutting of seed cane should be carefully supervised. Tops without joints and leaves will not germinate. Don't plant gaps. Watch the topping operation closely. Stretching seed causes gaps. If an acre of seed cane is only thick enough and tall enough to plant five acres, then plant only five acres with that one acre of seed. Don't cheat the planting furrow. Plant a minimum of two sound stalks with at least a 10 percent lap. This operation should also be closely supervised. A planted gap is a gap for usually three years. Speed should not be the byword. A good job is far more important.

Growers should pay particular attention to the covering operation. Too much soil over cane, if not taken off in time, hurts stands. This is particularly true in light sandy soils and usually more pronounced in years when cool weather continues late in the spring. In the writer's opinion, more than four inches of soil is too much. Over the years he has seen more total acreage of poor stands from too much dirt than from too little dirt and that takes into consideration the badly freeze damaged crop of 1962.

Growers have learned that good drainage is a most important factor in getting good stands of cane. Many growers believe that better drainage generally over the cane belt is the largest single factor contributing to better than average yields of cane per acre over the last several years. On this subject it is important to mention that quarter drains should be cleaned immediately after the planting operation. Waterlogged conditions rot cane.

(Continued on page 271)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sugar Policy to be Reviewed

A complete review of sugar policy will be undertaken by the House Committee on Agriculture early next year, according to Committee Chairman Harold D. Cooley. Mr. Cooley said that in making the review the Committee would be looking toward enactment of new long-term sugar legislation.

Mr. Cooley made this statement in connection with his proposal for a one-year extension of the Sugar Act, a portion of which expires next December 31.

"I am preparing a Resolution for immediate action," he said, "to continue the program intact through 1965, with special requirements: 1. that domestic sugar producers be permitted to market their surpluses from the 1963 and 1964 crops, 2. that acreage allotments be invoked for the 1965 crop of sugar, and 3. that the marketing fee on imported sugar be repealed."

Mr. Cooley expressed the hope that this line of action will be supported by all elements of the sugar industry and by the consumers.

"The foreign quota authority of the Sugar Act expires on December 31, 1964," he said. "It is absolutely essential that this authority be continued. Otherwise the Sugar Act would become ineffective, and our domestic sugar industry would be brought face-to-face with bankruptcy.

"It was my intention in this session of the Congress to conduct a complete review of sugar policy, and to write long-term legislation. But we have not yet received any policy recommendation from the Agriculture and State Departments. Moreover, the domestic industry is split wide open as to the course we should take, especially as to what portion of our domestic market should be supplied by our domestic producers. In previous years, when renewal of the Sugar Act has come before us, the domestic industry has been able to get together on policy recommendations, but such is not now the case.

"In this situation, and at this late date when the Congress soon will adjourn, it would be futile to undertake the writing of any new long-term sugar legislation.

"Long and careful public hearings must precede any substantial revisions of sugar policy. The Administration must come forward with specific recommendations. And broad understanding and cooperation must be developed within the domestic industry.

"Therefore, the only sensible course at this time is to extend the Act for one year, with special provisions I shall propose to meet program necessities in 1965. This action should be undertaken promptly, with an understanding by all concerned that a complete review of sugar policy will be undertaken by the House Committee on Agriculture early in the 89th Congress which convenes in January, looking toward the enactment of new long-term sugar legislation."

Conflicting reports on Mr. Cooley's statement brought numerous telephone calls from New York and other parts of the country. A wire service erroneously reported that "a

(Continued on page 278)

1964 SUGARCANE VARIETY RECOMMENDATIONS FOR LOUISIANA

Prepared jointly by the personnel of the Louisiana State University Agricultural Experiment Station, Baton Rouge, Louisiana and the United States Department of Agriculture Sugarcane Field Station, Houma, Louisiana

The following recommendations are based primarily on results from the outfield test plots under supervision of the State and U.S.D.A. experiment stations. For the 1964 crop, C.P. 52-68, C.P. 44-101 and N.Co. 310 are the major varieties, comprising 80% of the state acreage.

C.P. 52-68, which holds first place in acreage, generally yields slightly less cane per acre than C.P. 44-101 but surpasses it in yields of sugar per ton on both light and heavy soils. It has generally made its poorer yields on the terrace soils of the Lafayette-Youngsville area and the Iberia soil series of the Teche. It is susceptible to mosaic and spread of the disease into the variety has been so rapid in some areas that it can not be controlled by roguing. Cane grown from mosaic-infested seed yields about one-third less than that from healthy seed. Cane to be used for seed should be rogued for mosaic. In areas where mosaic can not be controlled by roguing, replacement of C.P. 52-68 with varieties that are more resistant to the disease should be considered.

C.P. 52-68 is resistant to red rot and is less affected by stunting disease than other released varieties. It does not stand cold as well as N.Co. 310 but is superior to C.P. 36-105 in that respect.

C.P. 44-101 occupies second place in acreage. It yields well on all soil types and in all areas of the sugar district, and is especially vigorous in stubble crops. It yields 98% of C.P. 52-68 in sugar per acre. It is susceptible to mosaic but the disease spreads into it less rapidly than into C.P. 52-68 and N.Co. 310. Seedcane plots should be inspected for mosaic and rogued where necessary. C.P. 44-101 is recommended as a major cane.

N. Co. 310, third in acreage, has given yields of plant cane above those of C.P. 52-68 but below that variety in stubble crops. In the past few years second stubble crops have been weak in most areas. N.Co. 310 has been below C.P. 52-68 in sucrose content. It has a tendency to lodge but lodged cane can be successfully harvested mechanically with pick-up attachments. N.Co. 310 is more tolerant of cold injury than other released varieties. The variety is susceptible to mosaic and cane to be used for seed should be rogued. Where the disease can not be controlled in N.Co. 310 by roguing, it is recommended that it be replaced by more resistant varieties.

C.P. 48-103 is the earliest maturing variety available, and planting a sufficient acreage for milling during the early part of the harvest season is recommended. Many growers are finding it to their advantage to increase their plantings of this variety because of its early maturity as well as mosaic resistance. It is moderately resistant to mosaic but the disease spreads slowly in the variety and can be controlled by roguing.

C.P. 47-193 is earlier maturing than the three leading commercial varieties and may be grown to advantage on heavy soils in areas where mosaic is a serious problem. However, it does not withstand freeze injury as well as C.P. 52-68 and has a higher sucrose inversion rating. It should therefore, be harvested before the more cold-tolerant varieties. C.P. 47-193 is resistant to mosaic and roguing seed supplies is seldom necessary.

C.P.44-155, C.P. 43-47, C.P. 36-13, and C.P. 36-105 may be grown on

well drained light soils as secondary canes in some areas. They generally do not yield as well as the three leading commercial varieties. C.P. 36-13 is resistant to mosaic, C.P. 44-155 moderately susceptible, and C.P. 36-105 moderately resistant. The disease can be controlled in these varieties by roguing. Small acreages of these varieties are recommended where mosaic is becoming a problem.

C.P. 55-30, released in 1963, yields more cane and sugar per acre than C.P. 52-68 on light soils. Yields have been consistently good in all areas of the district and on both light and heavy soils. On heavy soils it yields more sugar per acre than C.P. 52-68. First stubble yields are consistently above those of plant cane and second stubble often above those of first stubble. It matures about the same as C.P. 52-68 but earlier than C.P. 44-101 and can follow C.P. 48-103 and C.P. 47-193 in cutting for the mill. C.P. 55-30 is susceptible to mosaic and is more severely affected by the disease than other released varieties. However, generally mosaic spreads into it less rapidly than into C.P. 44-101, C.P. 52-68, or N.Co. 310. Roguing seedcane supplies for mosaic is essential. The variety should not be grown where mosaic infection in other varieties is such that the disease cannot be controlled by roguing.

Recommendations by areas are as follows:

1. Avoyelles, Rapides, upper St. Landry and Pointe Coupee Parishes:
   a. Light soils: C.P. 48-103 for early harvesting, C.P. 52-68, C.P. 44-101, C.P. 55-30, N.Co. 310, C.P. 36-13, C.P. 47-193, and C.P. 36-105.
   b. Heavier soil types: C.P. 47-193[1]; C.P. 52-68, C.P. 44-101, C.P. 55-30, and N.Co. 310.

2. East and West Baton Rouge, Iberville, Ascension, lower Pointe Coupee and St. Landry Parishes:
   a. Light soils: C.P. 48-103 for early harvesting, C.P. 52-68, C.P. 44-101, C.P. 55-30, N.Co. 310, C.P. 44-155, C.P. 36-13, and C.P. 36-105.
   b. Heavier soil types: C.P. 47-193,[1] C.P. 52-68, C.P. 44-101, C.P. 55-30, and N. Co. 310.

3. Assumption, St. James, St. John, St. Charles, Lafourche and Terrebonne Parishes:
   a. Light soils: C.P. 48-103 for early harvesting, C.P. 52-68, C.P. 44-101, C.P. 55-30, N.Co. 310, C.P. 44-155, C.P. 43-47, C.P. 36-13, and C.P. 36-105.
   b. Heavier soil types: C.P. 47-193,[1] C.P. 52-68, C.P. 44-101, C.P. 55-30, and N.Co. 310.

4. St. Mary, Iberia and St. Martin Parishes:
   a. Light soils: Limited plantings of C.P. 48-103 for early harvesting, C.P. 52-68, C.P. 44-101, C.P. 55-30, N.Co. 310, C.P. 36-13, and C.P. 44-155.
   b. Mixed and heavier soil types: C.P. 47-193,[1] C.P. 52-68, C.P. 44-101, C.P. 55-30, and N.Co. 310.

5. Lafayette, Vermilion and terace soils in St. Landry Parishes:
   a. Light soils: C.P. 52-68, C.P. 44-101, C.P. 55-30, N.Co. 310, C.P. 36-13, and C.P. 44-155.
   b. Mixed and heavier soil types: C.P. 47-193,[1] C.P. 52-68, C.P. 44-101, C.P. 55-30, and N.Co. 310.

[1] C.P. 47-193 is listed first for these soil types because it is earlier maturing and does not withstand freeze injury as well as C.P. 44-101. It should be harvested first. C.P. 52-68 and C.P. 44-101 are higher yielding.

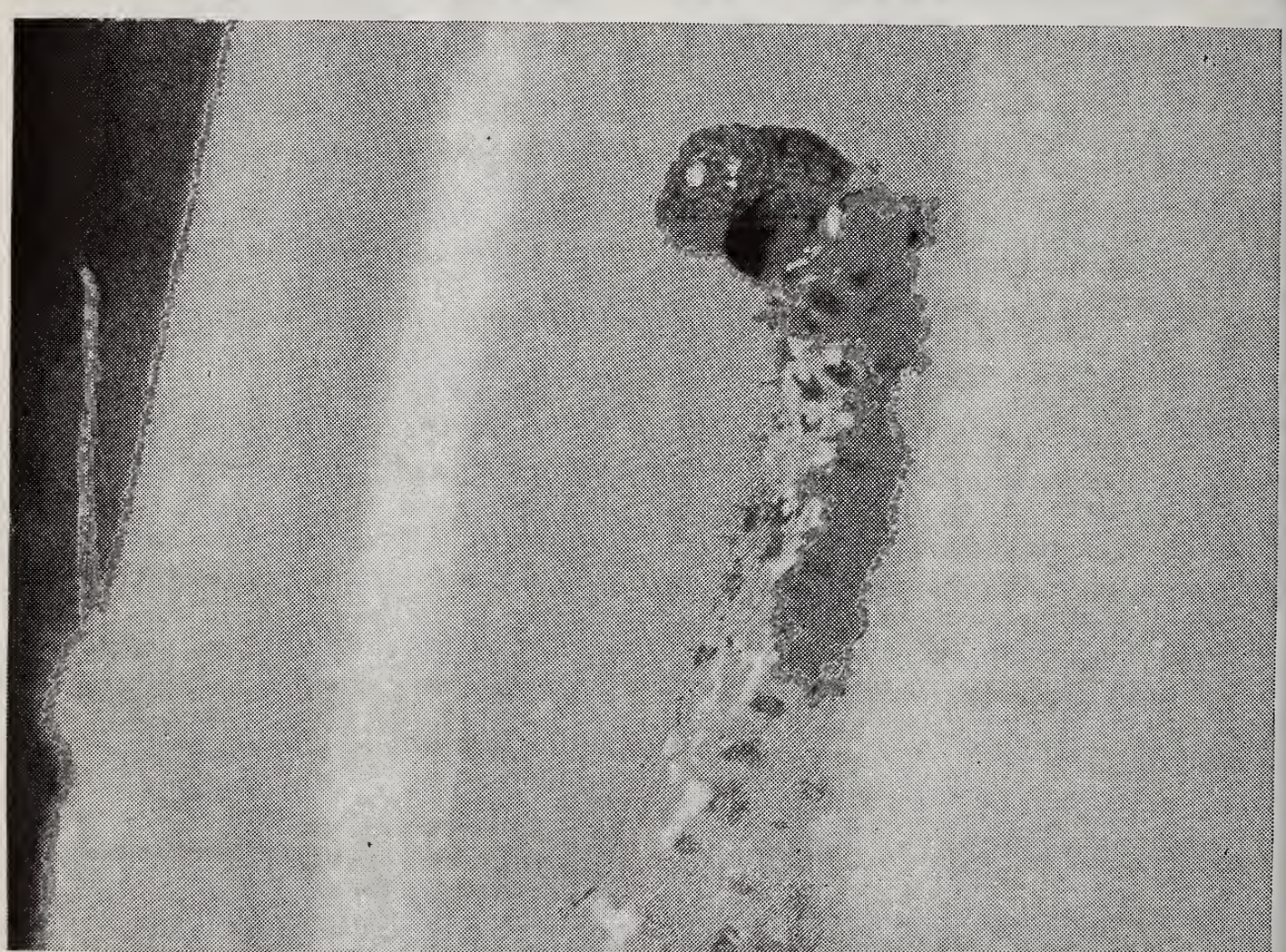
—o—

IN THE FIELD

(Continued from page 268)

Present Crop Conditions

Although the crop still looks like it will be another good one, many fields look more ragged now than on July 1st. Grass has taken over a large number of fields where the cane was short before the rains came and where the lay-by operation was done late. These type fields have not responded as well to the recent rains as earlier laid by cane. This condition appears more prevalent in N.Co. 310 than in other varieties but the condition is not restricted to the variety alone.



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- **Cane doesn't have to be washed before processing**
- **Bagasse can be fed to livestock**

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Make the first application of Diazinon 10G for fast borer control after the joints have started to form. On field checks, look for young larvae feeding in or under the leaf sheath. Quick knockdown is obtained if Diazinon 10G is applied before the larvae start to bore into the stalks. The first and subsequent applications should be made when at least five per cent of the plants are infested.

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RESISTANCE OF STREPTOMYCES TO HERBICIDES

H. C. Bounds and Arthur R. Colmer, Department of Bacteriology, Louisiana Agricultural Experiment Station, Baton Rouge

During the past several years, there has been much concern over the unwise use of chemicals in agriculture for weeds and insect control. Not the least of this concern is the fear that the addition of herbicides to the soil will harm the beneficial microorganisms which live there and which make the continued fertility of the soil possible. Studies conducted at L. S. U. and other experiment stations throughout the United States, however, show that certain groups of microorganisms actually detoxify the herbicides by modifying their chemical structure. Several microorganisms, for example, have been found which will readily decompose 2, 4-D and Dalapon.

One particular genus of soil bacteria, *Streptomyces,* along with other members of the same order of related bacteria, comprise about 20 to 25 per cent of the total soil microflora. The *Streptomyces* are important in maintaining soil fertility due to their ability to decompose rather resistant plant residues. It follows, then, that any material which would be deleterious to such a large population of the soil's flora would do great harm to agriculture.

In a portion of a continuing study at L. S. U. dealing with the effects of herbicides on the soil's microorganisms, soil samples were collected from four major crop producing regions of Louisiana: sugar cane, rice, cotton, and sweet potato. These soils served as test materials to determine the effect of some commonly used herbicides on the *Streptomyces.* They were treated with herbicides used for each particular crop as recommended by the Southern Weed Conference, 1963. The herbicides selected for this phase of the study were 2, 2-dichloropropionic acid (Dalapon, 2, 4-dichlrophenoxyacetic acid (2, 4-D), 2, 4, 5-trichlorophenoxyacetic acid (2, 4, 5-T), 2, 4, 5-trichlorophenoxypropionic acid (Silvex), 2, 3, 6-trichlorophenylacetic acid (Fenac), isopropyl N-3-chlorocarbamate (CIPC), N, N-diallyl-2-chloroacetamide (CDAA), and herbicidal oil.

The herbicides were added to the soil samples at three concentrations: zero or control rate, field rate of application, and one thousand times the field rate, an arbitrary figure used to simulate the accumulation of the chemicals in the field. These rates and the herbicides used are shown in Table 1.

Table 1.

Recommended rates of application

Herbicide	Rate (lbs./acre)
2, 4-D	1.0
Silvex	1.0
Dalapon	5.0
2, 4, 5-T	2.0
Fenac	2.0
CIPC	6.0
CDAA	6.0
herbicidal oil	6.0

After allowing the treated soils to incubate at 30 C (86 F) for two weeks, the soil samples were analyzed to determine if the herbicides had reduced the streptomycete population. Since the identification of streptomycete colonies is difficult in routine

Table 2.

Number of Streptomyces/gram of soil after two weeks exposure to herbicides*

Soil type	Dalapon		Silvex		Fenac	
	control	1,000X	control,	1,000X	control,	1,000X
Commerce	3,400	300	3,600	1,000	4,900	1,000
Mhoon	3,900	2,700	2,600	1,000	3,400	700
Sharkey	2,300	300	3,200	880	3,900	1,800

* values x 10^3

Table 3.

Number of Streptomyces/gram of soil after two weeks exposure to herbicides*

Herbicide	Rice		Cotton		Yams	
	control	1,000X	control	1,000X	control	1,000X
Silvex	4,600	570	-----	-----	-----	-----
2,4-D	4,600	260	-----	-----	-----	-----
2,4,5-T	4,600	650	-----	-----	-----	-----
herbicidal oil	-----	---	2,000	1,100	-----	-----
CIPC	-----	---	2,000	320	4,100	10
CDAA	-----	---	-----	-----	4,100	10

* values x 10^3

bacteriological testing of soil, a special agar (sodium caseinate) and a phenol pre-treatment of the inoculum were used to hold down the fungi and bacteria other than the *Stremptomyces*. The results showed that the field rates of the various chemicals had no effect on the number of *Streptomyces* present in the soil samples after two week's exposure to the herbicides. Field rate application of Silvex on

(Continued on next page)

Mhoon soil, for example, yielded 2,500,000 *Streptomyces* per gram of soil, while the control sample contained 2,600,000 organisms per gram. A population of 3,700,000 *Streptomyces* per gram of soil at the field rate and 3,600,000 organisms at the zero or control rate was found with the same herbicide on Commerce soil. The slight differences noted are insignificant when dealing with such a large population. A thousand-fold increase in concentration did, however, reduce the streptomycete population.

Table 2 shows the numbers of *Streptomyces* present in three cane soil types after two weeks exposure to the various herbicides. As can be seen the thousand-fold treatment greatly reduced the number of organisms present per gram of soil. Table 3 illustrates the result obtained using the rice, cotton, and sweet potato soils. Again it is noted that the high concentration of the chemicals did reduce the streptomycete population.

To determine just how high a concentration of the chemicals the organisms could withstand, 10 *Streptomyces*, chosen as representative of the streptomycete population found in the test Louisiana soils, were placed in tubes of a liquid soil extract medium containing different levels of the herbicides. The organisms were subjected to concentrations of the herbicides of 50 times the field rate, 100 times the field rate, 500 times the field rate, and 1,000 times the field rate. The tubes were incubated at 30C for seven days and then checked for growth.

Table 4 shows the overall effects of the various concentrations of the herbicides against the test organisms. It shows that some of the organisms were able to withstand extremely high concentrations of some of the herbicides. For example, some of the *Streptomyces* could grow in the presence of as much as 5,000 lbs./acre of Dalapon. It should be remembered that this experiment was performed in a broth culture and not in the soil itself. With the mixed population of microorganisms present in the soil, the concentration of the chemicals which the *Streptomyces* could withstand would probably be even greater.

Table 4.

Toxic levels of herbicides

Herbicide	Rates of application				
	control	50X	100X	500X	1,000X
Dalapon	10*	10	10	9	9
2,4-D	10	10	9	8	8
Fenac	10	10	9	8	7
Silvex	10	9	8	7	6
2,4,5-T	10	10	10	4	0
CDAA	10	10	10	4	0
CIPC	10	10	5	0	0

* indicates number of 10 isolates which would grow in the various concentrations of the herbicides.

The data obtained from the various experiments indicate that the herbicides tested, when used at the recommended rates of application, have no harmful effects on soil bacteria of the genus *Streptomyces*. In fact, the organisms are able to withstand concentrations of the chemicals many times greater than would normally occur under field conditions. It is felt that the use of these herbicides presents no danger insofar as this important group of soil microorganisms is concerned.

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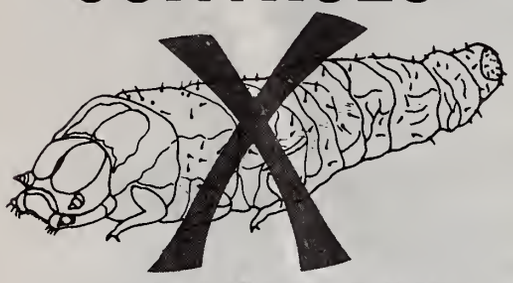

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- Requires fewer applications for effective control. Four applications do the work of six with other materials.
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IN WASHINGTON

(Continued from page 269)

Committee spokesman" amended the Chairman's statement on domestic area marketing of surplus sugar to the effect that such marketing would be made in 1965. Actually there was no amendment to the Chairman's statement. How the error occurred is still a mystery.

—o—

UP FRONT

(Continued from page 267)

Hearing August 7th

Attention is called to the Government Mill Marketing Allotment Hearing which will be held on Friday, August 7th in the Monteleone Hotel, New Orleans, beginning at 9 o'clock in the morning. The announcement of the Hearing says that the Secretary of Agriculture has found that "the allotment of the 1964 sugar quota for the Mainland Cane Sugar Area (Louisiana and Florida) is necessary to prevent disorderly marketing" and that the purpose of the Hearing is to enable the Secretary of Agriculture to make "fair, efficient and equitable distribution of the above-mentioned quota for the calendar year 1964 among persons who process and market sugar produced from sugarcane grown in the Mainland Cane Sugar Area."

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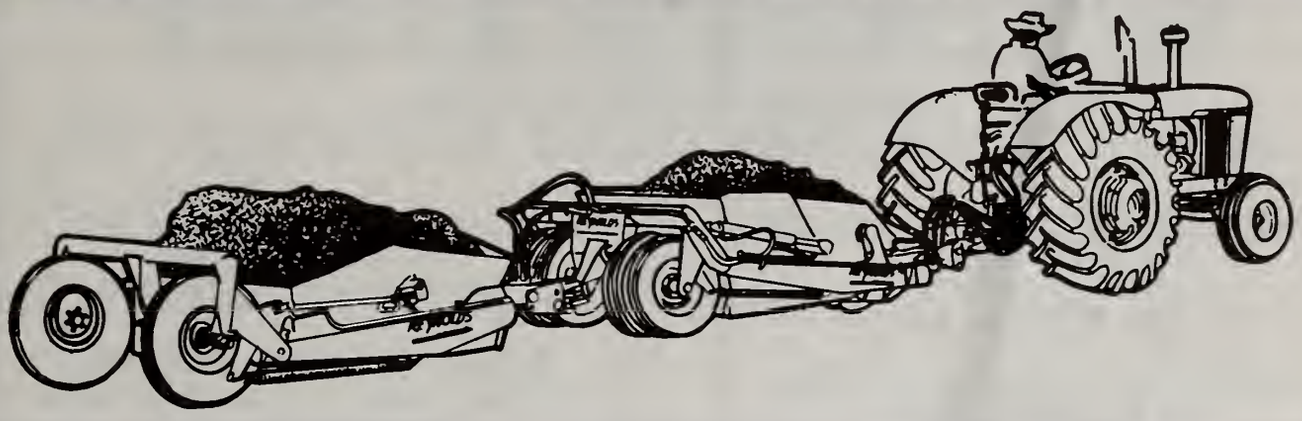

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Official Bulletin of the American Sugar Cane League of the U. S. A.

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THE
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Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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RECAPITULATION OF FINAL REPORTS OF LOUISIANA SUGAR CANE FACTORIES, CROPS 1954-1963, A. S. C. S. Reports

Total for State Factories Year	54 1954	53 1955	50 1956	49 1957	48 1958	47 1959	46 1960	46 1961	46 1962	46 1963
Crop Days	62.9	63.9	55.02	65.6	54.8	56.0	61.7	77.2	54.5	83.8
Lost time % total time	13.08	12.61	11.75	15.72	10.74	10.95	11.53	12.96	10.32	16.23
Cane: Tons ground, gross weight	5,941,406	5,949,155	5,109,238	5,397,171	5,205,760	5,436,522	6,051,303	7,659,253	5,768,782	9,062,892
Tons ground, net weight	5,624,800	5,664,412	4,817,145	4,975,915	4,878,725	5,072,611	5,582,687	7,118,497	5,315,415	8,554 103
% Total Cane Ground, Gross Weight	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tons Ground per Hour	79.39	83.74	84.32	81.35	92.46	94.56	99.82	103.25	106.89	116.80
Extraction N. J. % Cane	72.39	73.16	72.83	70.59	73.32	73.04	72.93	73.30	72.26	72.86
Sucrose Extraction, %	89.69	90.13	90.18	88.88	90.24	90.13	89.79	90.26	89.53	89.59
Maceration % Cane	17.08	17.58	18.83	20.00	18.88	18.62	18.28	17.70	18.32	16.72
Fiber % Cane	14.51	14.28	14.65	15.32	14.27	14.35	14.21	14.17	14.39	14.07
Java Ratio	75.98	76.72	75.94	74.95	76.19	76.52	76.54	76.54	75.74	76.86
Analysis										
Crusher Juice Brix	16.89	16.52	17.28	16.30	17.04	16.44	16.39	17.05	17.36	17.20
Crusher Juice Sucrose	13.34	12.68	13.81	12.93	13.71	13.12	12.85	13.65	13.78	13.63
Brix Factor (Final Report)	96.92	96.85	96.93	97.24	96.95	97.01	96.95	97.07	96.89	97.03
Sucrose Factor (Final Report)	94.15	94.56	94.06	94.35	93.73	94.36	94.24	94.29	93.83	94.50
Normal Juice Brix	16.37	16.00	16.75	15.85	16.52	15.95	15.89	16.55	16.82	16.69
Normal Juice Sucrose	12.56	11.99	12.99	12.20	12.85	12.38	12.11	12.87	12.93	12.88
Normal Juice Purity	76.73	74.94	77.55	76.97	77.78	77.62	76.20	77.76	76.85	77.17
Factory Syrup, Brix	56.55	57.96	57.91	56.42	57.64	56.66	56.82	57.34	57.86	58.48
Residual Juice Brix	6.42	5.98	6.17	6.30	6.22	5.95	6.11	6.20	6.48	6.61
Bagasse Sucrose	3.27	3.07	3.18	3.17	3.22	3.12	3.15	3.25	3.36	3.47
Bagasse Moisture	49.99	49.82	50.05	50.50	50.44	50.52	50.97	50.29	50.97	50.47
Bagasse Fiber	45.45	45.68	45.54	45.06	45.13	45.19	44.59	45.26	44.29	44.73
Press Cake Sucrose	4.08	4.17	4.33	4.55	4.10	4.43	3.99	4.39	4.52	4.42
Sucrose Balance										
Molasses, Sucrose % Cane	1.022	1.096	1.041	1.053	.950	.912	1.005	.968	1.105	1.036
Press Cake, Sucrose % Cane	.165	.169	.167	.252	.172	.190	.182	.192	.202	.184
Undetermined, Sucrose % Cane	.184	.151	.146	.228	.116	.154	.159	.140	.171	.130
Bagasse, Sucrose % Cane	1.045	.959	1.030	1.078	1.019	.991	1.004	1.017	1.093	1.090
Total Losses, Sucrose % Cane	2.416	2.375	2.384	2.611	2.257	2.247	2.350	2.317	2.571	2.440
Sugar, Sucrose % Cane	7.720	7.353	8.104	7.075	8.188	7.794	7.485	8.131	7.865	8.034
Total, Sucrose % Cane	10.136	9.728	10.488	9.686	10.445	10.041	9.835	10.448	10.436	10.474
Pounds 96° Sugar M&E Ton Gross Cane	160.83	153.19	168.83	147.40	170 58	162.37	155.94	169.39	163.85	167.37
Pounds 96° Sugar M&E Ton Net Cane	169.88	160.89	179.07	159.87	182.02	174.02	169.04	182.26	177.82	177.32
Gals. F. M. (B/S) M. & E. T/C 80° Brix	6.67	7.28	6.56	6.52	6.37	6.17	6.58	6.43	6.88	6 85
Boiling House Efficiency	96.61	96.83	96.93	93.35	98.05	97.34	96.86	97.34	95.71	97 09

LOUISIANA MILL REPORTS

Production of Sugars (tons, 2,000 lbs.), Syrup, 1st Molasses, 2nd Molasses, and Blackstrap—1954-1963

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Raw Sugar 96°	376,391	363,234	336,795	304,367	340,211	361,958	390,576	538,346	383,891	672,944
Turbinados	41,790	43,949	40,684	40,779	40,040	37,946	37,217	38,528	31,642	12,573
Granulated	46,710	31,754	39,319	41,846	51,679	29,368	31,358	56,314	43,465	56,823
Washed Raws	------	4,870	2,719	------	------	0	0	0	0	0
Total Sugars (Raw Value)	478,413	455,209	431,624	397,642	442,793	440,400	469,711	649,514	471,601	759,473
String—Others	275	904	Lbs. 128	------	67	204	145	0	176	46
Sirup—Gallons	1,224,999	1,397,874	1,143,480	785,571	1,246,002	1,217,822	1,167,418	1,079,468	1,031,828	719,984
1st Molasses—Gallons	1,450,251	1,640,898	1,150,873	1,200,461	1,968,068	1,473,398	1,701,721	1,853,590	1,824,430	1,902,267
2nd Molasses—Gallons	1,369,755	1,552,163	1,233,328	1,352,862	1,116,155	1,240,674	1,677,052	1,221,572	947,988	783,117
Blackstrap (Actual Gallons)	34.198.437	37,902.846	29.043,451	30,149,458	27.885,280	28,258.331	33.565,060	41.567,300	33,696.710	54,067,578

PLANTED ACRES OF SUGARCANE ON LOUISIANA FARMS PARTICIPATING IN THE SUGAR PROGRAM, BY PARISHES, FROM A. S. C. S. REPORTS

PARISHES	Acreage Planted for Sugar and Seed within Proportionate Shares											
	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Ascension	13,923.3	13,402.1	12,863.8	11,364.5	10,151.1	10,261.1	9,439.3	10,647.5	11,593.0	12,256.7	13,626.1	12,766.5
Assumption	29,900.3	31,428.3	27,680.6	25,685.6	22,628.3	25,988.3	25,882.7	29,397.6	29,872.8	31,419.4	34,739.7	33,988.9
Avoyelles	1,735.4	2,147.6	1,689.4	1,789.1	1,759.9	2,254.3	1,973.4	2,279.6	2,404.1	2,645.6	3,156.6	2,515.6
East Baton Rouge	388.3	83.6									.1	0.1
East Feliciana			.4	.4	.4			.3				
Iberia	39,340.1	40,589.2	36,652.1	33,352.5	29,493.0	31,570.6	29,697.4	34,763.3	36,968.3	39,145.8	40,906.8	40,322.8
Iberville	19,510.9	20,135.7	17,899.3	16,651.4	13,972.2	15,889.0	15,621.4	17,741.9	17,520.1	18,669.8	21,886.7	20,423.9
Lafayette	8,874.7	8,901.7	7,647.4	7,219.5	6,497.5	6,954.8	6,654.3	7,826.0	8,279.4	8,573.3	8,730.1	7,978.1
Lafourche	29,040.1	29,895.3	25,129.3	24,234.6	21,637.3	24,126.7	23,632.1	26,665.5	26,457.8	28,948.4	32,165.2	32,744.3
Pointe Coupee	9,581.4	8,857.7	8,685.8	8,544.5	8,117.3	8,847.1	8,262.4	10,095.0	11,030.9	12,389.7	13,674.6	12,286.0
Rapides	972.9	708.9	674.7	659.9	748.4	1,197.6	1,238.9	1,412.6	1,664 4	2,202.4	2,503.5	2,125.3
St. Charles	1,699.6	1,529.3	1,441.3	1,329.6	1,160.3	1,244.5	1,243.2	1,524.6	1,502.5	1,557.1	2,015.1	2,315.9
St. James	17,482.9	17,299.7	15,466.7	14,382.6	12,246.1	14,503.0	14,022.5	15,428.4	16,994,0	18,734.7	21,559.9	21,681.9
St. John	15,044.6	15,179.7	13,239.6	12,560.0	11,484.1	12,790.0	12,528.6	9,109.6	9,249.0	9,875.5	10,800.6	10,892.0
St. Landry	172.1	184.9	128.6	117.5	143.8	235.1	34.9	36.6		18.0		
St. Martin	18,872.2	19,475.8	16,932.6	16,728.2	15,197.0	16,430.2	15,005.1	16,798.7	18,370.7	19,185.5	19,568.6	19,273.4
St. Mary	36,877.5	37,863.8	32,031.4	30,053.7	26,055.7	30,314.0	29,749.8	34,216.4	35,049.9	35,688.3	40,437.4	40,175.1
Terrebonne	33,393.7	35,032.2	31,513.7	28,526.3	25,232.9	28,808.7	28,656.0	36,157.4	35,730.7	37,659.1	39,874.1	39,900.5
Vermilion	2,760.9	2,633.2	2,511.1	2,360.3	2,157.8	2,218.8	1,805.4	1,968.8	2,082.3	2,554.5	3,031.5	3,098.8
West Baton Rouge	13,489.0	13,527.3	12,235.0	12,051.0	11,070.4	12,604.3	12,571.5	14,098.9	14,110.4	15,195.6	17,237.3	16,291.8
West Feliciana	1,686.4	1,778.1	1,939.2	1,962.9	1,838.5	2,108.7	2,064.6	2,473.2	2,734.3	2,898.6	3,369.4	3,248.1
TOTAL	294,746.3	300,654.6	266,362.0	249,576.1	221,592.0	248,346.8	240,083.5	272,641.9	281,614.6	299,618.0	329,283.3	322,029.0

PROPORTIONATE SHARE ACRES HARVESTED FOR SUGAR—YIELD OF SUGARCANE PER ACRE AND YIELD OF RECOVERABLE SUGAR PER ACRE OF LOUISIANA FARMERS PARTICIPATING IN THE SUGAR PROGRAM, BY PARISHES FROM A. S. C. S. REPORTS

PARISHES	Proportionate Shares Harvested for Sugar (Acres)					Yield of Cane Per Acre Actual Net Tons				Yield of Recoverable Sugar per Acre CWT			
	1959	1960	1961	1962	1963	1960	1961	1962	1963	1960	1961	1962	1963
Ascension	9,748.4	10,634.9	11,432.4	10,956.2	11,923.8	24.82	28.81	21.91	31.34	39.51	49.21	38.41	56.86
Assumption	27,085.8	27,620.7	29,378.5	29,498.2	31,856.5	24.39	28.05	21.41	31.19	40.18	49.63	39.03	57.50
Avoyelles	2,189.6	2,108.8	2,408.7	931.7	2,360.4	20.75	25.04	21.05	30.19	32.63	42.92	35.40	56.52
East Baton Rouge				.1	0.1			33.00	42.00			59.70	74.90
Iberia	31,133.1	33,124.0	35,549.7	30,995 0	36,462.9	19.35	23.66	22.02	28.33	33.78	43.49	41.42	53.98
Iberville	16,178.1	15,874.0	17,279.5	16,720.6	19,128.2	23.12	28.20	20:29	32.17	36.65	47.07	36.89	54.08
Lafayette	7,031.6	7,493.7	7,986.4	4,791.0	7,144.0	15.39	19.81	10.83	21.30	25.13	36.17	19.54	43.01
Lafourche	24,687.0	24,409.0	27,085.9	28,077.0	30,534.5	22.96	26.49	22.77	29.94	38.44	48.73	42.65	54.49
Pointe Coupee	9,386.1	10,286.8	11,699.1	8,398.0	11,555.6	22.79	24.61	19.69	28.24	36.74	40.64	32.72	52.17
Rapides	1,277.7	1,541.9	2,123.4	910.1	2,013.3	26.28	27.77	16.68	29.56	41.58	47.91	27.68	54.49
St. Charles	1,411.6	1,412.9	1,431.2	1,599.8	1,913.5	20.18	23.13	25.58	28.61	32.25	42.32	47.58	49.80
St. James	14,107.5	14,903.3	17,673.6	17,207.2	20,114.4	23.67	28.66	22.76	30.62	37.91	51.89	42.18	55.36
St. John	8,426.0	8,092.0	9,208.1	9,021.6	9,665.2	22.95	27.57	22.74	26.98	37.23	49.50	41.20	50.16
St. Landry	36.6		15.2				28.20				50.95		
St. Martin	15,147.9	16,303.2	17,674.4	13,485.8	16,875.9	18.49	21.34	15.76	27.18	29.87	38.13	27.74	51.33
St. Mary	31,634.1	31,750.5	32,520.5	32,481.1	37,152.5	19.68	23.76	20.70	27.83	35.15	46.51	40.08	53.87
Terrebonne	33,548.2	32,765.4	35,207.2	32,848.9	36,786.0	22.48	25.20	21.90	27.26	37.58	46.96	40.74	49.73
Vermilion	1,731.1	1,840.7	2,277.6	1,776.2	2,820.1	16.79	19.77	14.26	25.84	28.68	35.08	25.58	48.10
West Baton Rouge	12,810.2	12,628.6	13,864.9	12,856.1	15,115.2	25.39	29.19	18.59	29.97	41.28	50.09	29.89	52.11
West Feliciana	2,209.0	2,557.3	2,491.3	1,134.8	2,070.0	23.39	27.80	22.76	33.10	32.20	42.99	37.50	59.05
TOTAL	249,829.9	255,356.7	277,307.6	253,689.4	295.492.1	21.86	25.66	20.96	28.97	36.27	46.25	38.46	53.16

NUMBER OF PRODUCER-PAYEES, NUMBER OF FARMS GROWING SUGAR CANE, AND AVERAGE SUGAR CANE ACREAGE GROWING PER FARM IN LOUISIANA
1937 - 1963

Crop Year	Number of producer-payees	Number of farms	Average sugar cane acreage growing per farm
1937	16,572	10,260	30.1
1938	16,901	10,468	28.3
1939	17,701	10,918	24.5
1940	15,635	9,332	28.4
1941	14,509	8,599	30.7
1942	14,329	8,671	34.4
1943	13,439	8,052	36.1
1944	12,662	7,556	36.5
1945	10,344	6,304	44.0
1946	10,151	6,141	47.8
1947	9,605	5,689	52.8
1948	10,208	5,957	50.2
1949	9,711	5,559	54.1
1950	9,047	5,028	60.2
1951	8,755	4,833	58.0
1952	8,237	4,463	66.0
1953	7,540	4,010	75.8
1954	7,384	3,883	70.3
1955	7,424	3,861	66.4
1956	7,176	3,703	62.6
1957	6,639	3,343	74.3
1958	5,936	2,908	82.6
1959	5,697	2,686	101.5
1960	5,568	2,547	110.6
1961	5,662	2,534	118.3
1962	5,563	2,413	136.5
1963	5,509	2,308	137.3

UNITED STATES DEPARTMENT OF AGRICULTURE
Louisiana ASCS State Office

GROWERS' INCOME, DOLLARS, THE TON OF SUGARCANE DELIVERED TO LOUISIANA SUGAR MILLS, 1937-1963

	Paid by Mills		Conditional Payments, Sugar Acts of 1937 and 1948, as Amended					
Year	Acct. Cane	Mols. Bonus	Acct. Recoverable Sugar	Abandonment Payment	Deficiency Payment	Total Conditional Payment	Support or CCC Payment	Total Amount Rec'd.
1937	2.907	-	.892	.023	.016	.931	-	3.838
1938	2.663	-	.948	-	-	.948	-	3.611
1939	2.881	-	.976	-	-	.976	-	3.857
1940	2.717	-	.908	.013	.258	1.179	-	3.896
1941	3.679	.256	.924	.005	.084	1.013	-	4.948
1942	4.033	.319	1.240	.001	.084	1.325	-	5.677
1943	3.936	.323	1.213	.008	.023	1.244	.341	5.844
1944	3.837	.313	1.165	.048	.004	1.217	.826	6.193
1945	3.762	.320	1.158	.008	.002	1.169	1.496	6.747
1946	6.222	.322	1.235	.041	.001	1.277	-	7.821
1947	6.634	.609	1.250	.001	.136	1.387	-	8.630
1948	5.821	.058	1.180	.001	.035	1.216	-	7.095
1949	6.199	-	1.204	.001	.030	1.235	-	7.434
1950	7.146	.738	1.287	-	.003	1.290	-	9.174
1951	5.149	.723	1.046	.039	.120	1.205	-	7.077
1952	6.542	.097	1.175	-	.001	1.176	-	7.815
1953	6.963	.141	1.263	.001	-	1.264	-	8.368
1954	6.582	.133	1.219	-	-	1.219	-	7.934
1955	6.085	.170	1.155	.001	.001	1.157	-	7.412
1956	7.148	.720	1.288	-	-	1.288	-	9.156
1957	6.461	.226	1.197	.005	.015	1.217	-	7.904
1958	7.080	.222	1.263	.001	.012	1.276	-	8.578
1959	6.855	.103	1.227	.001	.048	1.276	-	8.234
1960	6.925	.236	1.204	.003	.012	1.219	-	8.380
1961	7.266	.197	1.280	-	-	1.280	-	8.743
1962	7.520	.400	1.323	.075	.027	1.425	-	9.345
1963	10.336	.412	1.290	.001	0	1.291	0	12.039

PRODUCTION OF SUGAR IN LOUISIANA 1900- 1963

Crop Year	Production 1,000 short tons	Crop Year	Production 1,000 short tons
1900	309	1937	401
1901	360	1938	491
1902	369	1939	436
1903	256	1940	234
1904	398	1941	322
1905	377	1942	397
1906	258	1943	432
1907	381	1944	396
1908	398	1945	370
1909	327	1946	331
1910	350	1947	297
1911	360	1948	393
1912	157	1949	414
1913	299	1950	451
1914	248	1951	295
1915	140	1952	451
1916	310	1953	479
1917	249	1954	478
1918	286	1955	454
1919	124	1956	429
1920	173	1957	396
1921	331	1958	443
1922	301	1959	440
1923	165	1960	469
1924	90	1961	650
1925	142	1962	472
1926	48	1963	759
1927	72		
1928	135		
1929	204		
1930	188		
1931	160		
1932	228		
1933	209		
1934	234		
1935	339		
1936	386		

Production reported on 96° basis prior to 1934, raw value basis thereafter

PRODUCTION BY LOUISIANA

Name of Factory	Gross tons of cane ground for sugar	Net tons of cane ground for sugar	Tons of Sugar Refined Granulated
Albania	161,767	152,686	—
Alma	177,718	169,031	—
Angola	64,654	61,589	—
Armant	257,763	241,322	—
Audubon	1,408	1,324	—
Billeaud	151,894	142,948	—
Breaux Bridge	131,216	126,977	—
Caldwell	256,581	242,453	—
Catherine (L)	69,416	64,752	—
Catherine (S)	127,415	122,600	(Plt. Granulated)
Cedar Grove	131,219	124,448	—
Cinclare	203,559	195,094	—
Columbia (C&G)	118,580	111,234	(Plt. Granulated)
Columbia (F)	118,147	111,810	—
Cora-Texas	130,012	122,350	—
Duhe-Bourgeois	176,312	170,872	—
Enterprise	252,133	238,242	—
Erath	134,814	126,526	—
Evan Hall	404,635	385,733	—
Georgia	162,535	153,101	13,125
Glenwood	266,036	250,101	—
Greenwood	239,939	228,398	—
Helvetia	201,326	190,410	—
Iberia	302,041	290,427	—
Leighton	335,473	304,415	—
Levert-St. John	243,948	232,483	—
Little-Texas	98,963	89,989	—
Louisa	174,349	163,694	—
Lula	252,054	235,124	—
Meeker	138,150	130,803	—
Myrtle Grove	198,510	184,414	—
Oaklawn	333,550	319,525	—
Poplar Grove	163,790	155,441	—
Raceland	367,953	338,557	—
San Francisco	76,458	71,679	(Plt. Granulated)
St. James	254,360	242,685	—
St. Mary	212,583	203,327	—
Smithfield	152,978	143,330	—
Southdown	228,098	214,661	17,820
Sterling	407,964	391,259	—
Supreme	261,946	248,221	19,883
Terrebonne	245,809	229,196	—
Valentine	217,850	203,760	—
Vida	92,848	89,134	—
Westfield	242,374	225,735	—
Youngsville	121,764	112,243	—
TOTAL	9,062,892	8,554,103	50,828

[1] Based on partly estimated weights and polarizations as reported on forms SU-123.

CANE MILLS, 1963 CROP[1]

Produced			Blackstrap Molasses	
Turbinados	Raw Sugar	Total Sugar Prod. Raw Value	Gallons Produced	Gallons Produced 80° Brix
—	14,685	15,081	1,044,804	1,158,286
—	14,080	14,304	1,246,040	1,257,899
—	3,368	3,384	471,214	542,066
—	20,856	21,349	1,461,658	1,691,435
—	124	128	10,641	11,691
—	13,166	13,374	974,627	1,102,639
—	11,139	11,261	773,730	923,349
—	20,697	21,153	1,627,040	1,703,408
—	4,521	4,556	407,733	493,608
—	7,700	8,165	574,000	574,000
—	10,048	10,223	979,150	1,016,058
—	14,679	14,545	1,474,436	1,599,833
—	5,927	8,290	452,000	526,657
—	11,033	11,182	682,015	765,345
2,528	6,588	9,440	649,300	667,147
—	15,792	16,096	1,018,499	1,150,503
—	21,314	21,616	1,373,906	1,574,818
—	11,628	11,799	898,700	1,010,156
—	32,705	33,113	2,342,676	2,682,337
—	—	14,043	922,784	1,076,372
—	22,773	23,317	1,799,526	1,812,765
—	20,215	20,735	1,438,472	1,589,141
—	16,084	16,342	1,129,467	1,345,386
—	26,343	26,589	1,464,076	1,785,191
—	26,402	26,780	2,051,839	2,434,625
—	20,520	20,926	1,656,079	1,775,124
—	7,353	7,426	651,780	692,559
—	15,745	16,079	796,500	959,077
—	21,211	21,518	1,555,166	1,710,272
—	10,715	11,039	1,144,005	1,148,438
—	14,746	14,839	1,481,793	1,507,439
—	29,536	29,898	1,799,899	2,104,736
—	13,088	13,163	1,006,548	1,238,574
10,045	20,825	31,995	2,153,619	2,248,618
—	—	3,736	———	———
—	20,569	20,972	1,223,400	1,514,029
—	19,828	20,530	1,063,150	1,243,214
—	11,363	11,572	1,095,118	1,144,204
—	126	19,165	1,238,812	1,479,443
—	38,200	39,283	2,319,080	2,640,558
—	—	21,275	2,092,799	2,096,709
—	20,980	21,382	1,342,148	1,552,363
—	18,144	18,764	1,230,381	1,445,659
—	7,951	8,156	560,802	624,435
—	20,014	20,362	1,563,277	1,722,318
—	10,163	10,528	824,889	959,789
12,573	672,944	759,473	54,067,578	60,302,273

QUOTATIONS ISSUED BY THE LOUISIANA SUGAR EXCHANGE, INC.
ON RAW SUGAR AND BLACKSTRAP MOLASSES
1963-1964 PRICING PERIOD

Date	N.Y.	N.O.	B'strap
Oct. 4	8.30	8.28	22.00
5	No Market		
6	Sunday		
7	8.50	8.48	22.00
8	8.70	8.68	22.00
9	9.00	8.98	22.00
10	9.00	8.98	22.00
Weekly Avg. Raws	8.6800	B'strap	22.0000
Oct. 11	9.00	8.98	22.00
12	No Market		
13	Sunday		
14	9.00	8.98	22.00
15	9.15	9.13	22.00
16	9.15	9.13	22.00
17	9.35	9.33	22.00
Weekly Avg. Raws	9.1100	B'strap	22.0000
Oct. 18	9.70	9.68	22.00
19	No Market		
20	Sunday		
21	10.25	10.23	22.00
22	10.25	10.23	22.00
23	10.25	10.23	22.00
24	10.50	10.48	21.50
Weekly Avg. Raws	10.1700	B'strap	21.9000
Oct. 25	10.25	10.23	21.50
26	No Market		
27	Sunday		
28	10.25	10.23	21.50
29	10.05	10.03	21.50
30	10.25	10.23	21.50
31	10.25	10.23	21.00
Weekly Avg. Raws	10.1900	B'strap	21.4000
Nov. 1	10.25	10.23	21.00
2	No Market		
3	Sunday		
4	10.25	10.23	20.50
5	No Market		
6	10.00	9.98	20.50
7	9.50	10.05	20.50
Weekly Avg. Raws	10.1225	B'strap	20.6250
Nov. 8	9.25	9.23	20.00
9	No Market		
10	Sunday		
11	No Market		
12	9.50	9.48	20.00
13	9.35	9.33	19.50
14	9.50	9.48	19.50
Weekly Avg. Raws	9.3800	B'strap	19.7500

Date	N.Y.	N.O.	B'strap
Nov. 15	9.50	9.48	19.50
16	No Market		
17	Sunday		
18	9.25	9.23	19.50
19	9.25	9.23	19.00
20	8.95	8.93	19.00
21	8.80	8.78	18.75
Weekly Avg. Raws	9.1300	B'strap	19.1500
Nov. 22	8.60	8.58	18.75
23	No Market		
24	Sunday		
25	No Market		
26	8.60	8.58	18.75
27	8.90	8.88	18.50
28	No Market		
Weekly Avg. Raws	8.6800	B'strap	18.6667
Nov. 29	9.30	9.28	18.50
30	No Market		
Dec. 1	Sunday		
2	9.30	9.28	18.50
3	9.30	9.28	18.50
4	9.15	9.13	18.50
5	9.00	9.00	17.75
Weekly Avg. Raws	9.1940	B'strap	18.3500
Dec. 6	8.65	8.63	17.75
7	No Market		
8	Sunday		
9	8.80	8.78	17.75
10	8.90	8.88	17.75
11	8.80	8.78	17.75
12	8.70	8.68	17.75
Weekly Avg. Raws	8.7500	B'strap	17.7500
Dec. 13	8.40	8.38	17.75
14	No Market		
15	Sunday		
16	8.40	8.38	17.50
17	8.40	8.38	17.50
18	8.40	8.38	17.50
19	8.40	8.38	17.50
Weekly Avg. Raws	8.3800	B'strap	17.5500
Dec. 20	8.40	8.38	17.50
21	No Market		
22	Sunday		
23	8.40	8.38	17.50
24	8.40	8.38	17.50
25	No Market		
26	8.80	8.78	17.50
Weekly Avg. Raws	8.4800	B'strap	17.5000

Date	N.Y.	N.O.	B'strap
Dec. 27	9.20	9.18	17.50
28	No Market		
29	Sunday		
30	9.20	9.18	16.75
31	9.40	9.38	16.75
Jan. 1	No Market		
2	9.40	9.38	17.50
Weekly Avg. Raws 9.2800		B'strap 17.1250	
Jan. 3	9.30	9.28	16.75
4	No Market		
5	Sunday		
6	9.30	9.28	17.50
7	9.30	9.28	17.50
8	9.30	9.28	17.50
9	9.35	9.33	17.50
Weekly Avg. Raws 9.2900		B'strap 17.3500	
Jan. 10	9.50	9.48	16.75
11	No Market		
12	Sunday		
13	9.50	9.48	17.25
14	9.50	9.48	17.25
15	9.50	9.48	17.25
16	9.50	9.48	17.25
Weekly Avg. Raws 9.4800		B'strap 17.1500	
Jan. 17	9.50	9.48	17.25
18	No Market		
19	Sunday		
20	9.50	9.48	17.00
21	9.50	9.48	17.25
22	9.50	9.48	17.00
23	9.35	9.33	17.25
Weekly Avg. Raws 9.4500		B'strap 17.1500	
Jan. 24	9.15	9.13	17.25
25	No Market		
26	Sunday		
27	9.25	9.23	17.00
28	9.15	9.13	17.25
29	9.15	9.13	17.25
30	8.60	8.58	17.25
Weekly Avg. Raws 9.0400		B'strap 17.2000	
Jan. 31	8.25	8.23	17.00
Feb. 1	No Market		
2	Sunday		
3	8.05	8.03	17.00
4	8.05	8.03	17.00
5	8.05	8.03	17.00
6	7.90	7.88	17.00
Weekly Avg. Raws 8.0400		B'strap 17.0000	

Date	N.Y.	N.O.	B'strap
Feb. 7	7.90	7.88	17.00
8	No Market		
9	Sunday		
10	8.15	8.13	17.00
11	8.15	8.13	17.00
12	No Market		
13	8.15	8.13	17.00
Weekly Avg. Raws 8.0675		B'strap 17.0000	
Feb. 14	8.05	8.03	17.00
15	No Market		
16	Sunday		
17	8.05	8.03	17.00
18	8.00	7.98	17.00
19	8.00	7.98	17.00
20	8.00	7.98	17.00
Weekly Avg. Raws 8.0000		B'strap 17.0000	
Feb. 21	No Market		
22	No Market		
23	Sunday		
24	8.00	7.98	17.00
25	8.00	7.98	17.00
26	8.00	8.00	17.00
27	8.00	7.98	17.00
Weekly Avg. Raws 7.9850		B'strap 17.0000	

SEASON'S AVERAGE PRICE

RAWS	BLACKSTRAP
8.9952	18.6008

"Sugar Factory Insurance Specialists"

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839 Union St. **New Orleans, La.**

Telephone JA 2-1225

SEASON AVERAGE PRICES

SEASON	RAWS (Cents Per Lb.)	BLACKSTRAP (Cents Per Gallon)
1935-36 (Oct. 18 - Feb. 28)	3.2316	6.0940
1936-37 (Oct. 16 - Feb. 25)	3.6660	6.1700
1937-38 (Oct. 8 - Feb. 24)	3.1924	5.3278
1938-39 (Oct. 14 - Feb. 23)	2.8195	2.9976
1939-40 (Oct. 13 - Mch. 29)	2.9229	5.0890
1940-41 (Oct. 10 - Mch. 28)	2.9729	6.4087
1941-42 (Oct. 10 - Apr. 2)	3.6121	16.1862
1942-43 (Oct. 9 - Apr. 1)	3.7300	17.8245
1943-44 (Oct. 8 - Mch. 30)	3.7300	18.0000
1944-45 (Oct. 13 - Mch. 29)	3.7500	17.6737
1945-46 (Oct. 12 - Jan. 31)	3.7500	18.0000
1946-47 (Oct. 11 - Jan. 30)	5.8167	18.0000
1947-48 (Oct. 3 - Jan. 29)	6.2060	26.7617
1948-49 (Oct. 8 - Jan. 27)	5.6184	9.6998*
1949-50 (Oct. 7 - Jan. 26)	5.8181	5.6417
1950-51 (Oct. 6 - Jan. 25)	6.1941	29.2297
1951-52 (Oct. 19 - Jan. 31)	5.8223	28.6800
1952-53 (Oct. 10 - Jan. 29)	6.2088	8.8016
1953-54 (Oct. 9 - Feb. 25)	6.0932	10.0087
1954-55 (Oct. 8 - Feb. 24)	5.9592	9.7477
1955-56 (Oct. 7 - Apr. 26)	5.8934	10.7797*
1956-57 (Oct. 5 - Apr. 25)	6.1783	25.7443*
1957-58 (Oct. 11 - Feb. 22)	6.1287	12.6885
1958-59 (Oct. 10 - Feb. 26)	6.2312	12.5653
1959-60 (Oct. 9 - Jan. 28)	6.1819	9.1907*
1960-61 (Oct. 7 - Jan. 26)	6.4828	13.0843*
1961-62 (Oct. 6 - Feb. 22)	6.3153	12.0694
1962-63 (Oct. 5 - Feb. 28)	6.5784	18.3567
1963-64 (Oct. 4 - Feb. 27)	8.9952	18.6008

*1948-49 Blackstrap period ended March 31, 1949
1955-56 Blackstrap period ended February 23, 1956
1956-57 Blackstrap period ended February 28, 1957
1959-60 Blackstrap period ended April 28, 1960
1960-61 Blackstrap period ended April 27, 1961

RAWS REFINED FUTURES

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BLACKSTRAP SYRUP EDIBLE MOLASSES

SUGARCANE VARIETY OUTFIELD EXPERIMENTS IN LOUISIANA DURING 1963

By H. P. Fanguy,[1] T. J. Stafford,[2] and R. J. Matherne[1]

The evaluation of sugarcane varieties in outfield experiments is a cooperative project of the Louisiana Agricultural Experiment Station, the United States Department of Agriculture, and the American Sugar Cane League. Experiments are located on major soil types in 11 of the 18 parishes where sugarcane is grown for the manufacture of sugar. Results of plant cane, first and second year stubble experiments, are obtained at most locations every year. Light soil experiments are located on Georgia, Oaklawn, Landry, St. John, Bon Secour, Glenwood, Lanaux, Cinclare, Billeaud, Youngsville, and Shirley plantations. Heavy soil experiments are located at the Houma station, and on Greenwood, Oaklawn, and Cinclare plantations.

Twenty-eight varieties were compared in outfield experiments during 1963. Eight of these were commercial varieties, and 20 were unreleased varieties.

Twenty-two new C.P. and L. varieties were introduced to the outfield testing program and primary seedcane increase stations during 1963. This relatively large number of new introductions from expanded breeding programs of both stations represent an increase over previous years; 8 varieties were introduced in 1960, 8 in 1961, and 13 in 1962.

Seasonal Conditions for 1963

The lowest temperatures during the early part of the 1963 Louisiana sugarcane crop year were on January 24, when 13° F. was recorded at Bunkie and 15° F. at Houma. The last freeze during early growth of the crop was on February 24 when temperatures of 26° F. and 32° F. were recorded at Bunkie and Houma, respectively. There appeared to be no damage from the low temperatures; the crop was dorment at that time.

The relatively warm dry spring was favorable for early emergence, and stands of cane were good throughout the "Sugar Belt". Weather conditions were also highly favorable for tillering of the cane and for controlling weeds. The crop grew better than average until August, when only 50-70% of the normal rainfall based on a 31-year average was recorded. Relatively dry conditions prevailed until September 16 when rain squalls associated with hurricane "Cindy" brought heavy rains over most of the sugarcane area.[3] Wind and rain at that time caused some lodging, but the crop resumed rapid growth after this period.

The excellent growth and sucrose content of the sugarcane enabled harvesting operations to begin as early as October 7. Harvesting continued at a rapid rate through October because less than 2% of the normal rainfall for that month was recorded. On November 8, heavy rainfall and high wind caused much of the remaining crop to lodge. The lodged cane and wet fields slowed harvesting operations considerably. The last outfield experiment was harvested on December 10 in spite of the poor conditions. A severe freeze occurred on December 24 when low temperature readings of 18° F. and 22° F. were recorded at Bunkie and Houma, respectively.[3] Tissues of the sugarcane stalks were frozen, and cane left in the field deteriorated rapidly. Mills were forced to cease operations by January 10, with more than 100,000 tons of cane not harvested.

In spite of the lodged cane and December freeze, the Louisiana sugarcane industry produced, an all-time high of 760,000 tons of sugar, raw value, with an average yield of 28.4 net tons of cane per acre for the 1963 crop (2).

Experimental Technique

Each outfield experiment comprises 4 replications of each variety in 1/70

acre plots, in a randomized block design. Eleven light-soil and 4 heavy-soil experiments were planted, with the numer of varieties in each varying from 12 to 16. Cultivation, fertilization, and dusting for insect control were in accordance with standard practices of cooperating plantations.

The cane in each experiment was cut by hand, and each plot was weighed with a portable weighing rig. Twenty-stalk samples selected at random from each plot after the cane was cut were transported to the U. S. Sugarcane Field Station, Houma, La., for milling and juice analyses. Indicated yields of sugar per ton of cane were calculated by the Winter-Carp-

Table 1. Average yields of 8 sugarcane varieties on light soils during 1963 at all locations in Louisiana.

Variety	Crop	Tests	Cane per acre	Sugar per ton of cane	Sugar per acre: actual	Sugar per acre: Percent of C.P. 52-68 1/
		Number	tons	pounds	pounds	percent
Commercial varieties						
C.P. 52-68	Plant cane	11	33.98	195.8	6653	100
	First stubble	9	36.13	185.2	6691	100
	Second stubble	8	35.63	175.6	6257	100
	Ave. 3 crops	28	35.25	185.5	6539	100
C.P. 44-101	Plant cane	11	35.81	182.0	6517	98
	First stubble	9	38.14	174.1	6640	99
	Second stubble	8	34.51	151.1	5214	83
	Ave. 3 crops	28	36.15	169.1	6113	93
C.P. 48-103	Plant cane	10	29.26	225.2	6589	98
	First stubble	7	30.63	224.1	6864	97
	Second stubble	8	28.26	195.7	5530	88
	Ave. 3 crops	25	29.38	215.0	6317	95
N. Co. 310	Plant cane	10	37.39	198.5	7422	111
	First stubble	9	35.46	183.6	6510	97
	Second stubble	8	29.79	160.5	4781	76
	Ave. 3 crops	27	34.21	180.9	6189	94
C.P. 55-30	Plant cane	11	36.39	194.0	7060	106
	First stubble	9	37.34	186.2	6953	104
	Second stubble	8	36.87	164.4	6061	97
	Ave. 3 crops	28	36.87	181.5	6692	102
Unreleased varieties						
C.P. 58-48	Plant cane	11	36.21	197.0	7143	107
	First stubble	9	34.02	192.1	6535	98
	Ave. 2 crops	20	35.14	194.5	6835	102
C.P. 59-43	Plant cane	11	41.05	202.0	8292	125
L. 60-1	Plant cane	11	33.45	201.0	6723	101

1/ Percentage values based on yields in comparable tests

Geerligs formula with adjustments for differences in juice extraction from each variety as determined in complete milling tests (1).

Results

Experiments on Light Soils (Table 1)

Commercial Varieties—C.P. 52-68, which is now the most extensively grown variety in Louisiana, has replaced C.P. 44-101 as the commercial standard for comparing varieties (3). Yields from C.P. 52-68 in 1963 (and in previous years) were very satisfactory.

Average yields of sugar per acre from C.P. 44-101 in all light soil experiments were 93% of those of C.P.

Table 2. Average yields of 8 sugarcane varieties on heavy soils during 1963 at all locations in Louisiana.

Variety	Crop	Tests: Number	Cane per acre: tons	Sugar per ton of cane: pounds	Sugar per acre: actual pounds	Sugar per acre: Percent of C.P. 52-68 1/ percent
			Commercial varieties			
C.P. 52-68	Plant cane	4	35.33	166.4	5879	100
	First stubble	3	33.82	168.8	5709	100
	Second stubble	2	36.57	164.5	6016	100
	Ave. 3 crops	9	35.24	166.6	5871	100
C.P. 44-101	Plant cane	4	33.53	173.1	5804	99
	First stubble	3	31.93	171.3	5470	96
	Second stubble	2	36.81	145.7	5363	89
	Ave. 3 crops	9	34.09	163.4	5570	95
C.P. 47-193	Plant cane	4	27.55	182.9	5039	86
	First stubble	3	27.46	202.9	5572	98
	Second stubble	2	31.63	180.6	5712	95
	Ave. 3 crops	9	28.88	188.8	5453	93
N. Co. 310	Plant cane	4	36.60	179.6	6573	112
	First stubble	3	29.34	187.0	5487	96
	Second stubble	2	34.19	157.3	5378	89
	Ave. 3 crops	9	33.38	174.6	5828	99
C.P. 55-30	Plant cane	4	36.97	195.6	7231	123
	First stubble	3	31.22	206.0	6431	113
	Second stubble	2	34.26	183.1	6273	104
	Ave. 3 crops	9	34.15	194.9	6656	113
			Unreleased varieties			
C.P. 58-48	Plant cane	3	35.81	170.3	6098	101
	First stubble	3	31.25	185.8	5806	102
	Ave. 2 crops	6	33.53	178.0	5968	101
C.P. 59-43	Plant cane	3	44.42	158.7	7049	117
L. 60-1	Plant cane	3	36.96	174.1	6435	106

1/ Percentage values based on yields in comparable tests

52-68. The yields of these 2 varieties were practically equal in plant cane and first year stubble experiments. In second year stubble experiments, C.P. 44-101 averaged only 83% of C.P. 52-68 in yield of sugar per acre. This lower response of C.P. 44-101 was due primarily to relatively low yields of sugar per ton of cane.

In spite of relatively low yields of cane per acre, C.P. 48-103 averaged 95% of C.P. 52-68 in yield of sugar per acre. Differences between these 2 varieties in yield of sugar per acre were relatively small in plant cane and first year stubble experiments. C.P. 48-103 averaged considerably higher than C.P. 52-68 in production of sugar per ton of cane, especially in second year stubble. This is an important feature of C.P. 48-103 because it can be relied upon for relatively good sucrose for the beginning of the harvesting season.

The average yield of sugar per acre from N. Co. 310 was superior to that of C. P. 52-68 in plant cane, approximately equal to it in first-year stubble, and only 76% of the yield from C.P. 52-68 in second-year stubble. This evidence of yield decline in second-year stubble crops of N. Co. 310 is in agreement with results during the past few years (4).

The new variety, C.P. 55-30, which was released to the sugarcane industry during 1963, was the only commercial variety in the experiments which outyielded C.P. 52-68 in sugar per acre on both light and heavy soils, in the average of all tests. C.P. 55-30 appeared to be best in plant cane and first-year stubble, with C.P. 52-68 averaging slightly better in second-year stubble on light soil. C.P. 55-30 is susceptible to mosaic; however, Abbott, Zummo and Tippett[4] reported that in the outfield variety test fields during 1960-64, where replicated plots of all varieties had uniform exposure to mosaic, spread of mosaic into C.P. 55-30 was less than into C.P. 44-101, C.P. 52-68, and N. Co. 310.

Unreleased Varieties — C.P. 58-48 produced yields of sugar per acre that were 107% of those from C.P. 52-68 in plant cane and 98% in first-year stubble. Observations and other data (not shown) indicate that C.P. 58-48 is weak in stubbling ability.

The outstanding unreleased variety in the 1963 plant cane experiments was C.P. 59-43. In yield of sugar per acre, it averaged 125% of that of C.P. 52-68, and was better in yield of cane per acre and sugar per ton of cane. C.P. 59-43 must be evaluated further

Table 3. Average yields of 3 crops of 16 varieties of sugarcane grown on light and heavy soils at all locations in the Mississippi River and Bayou Lafourche area, 1963.

Variety	Light Soils: Tests	Cane per acre	Sugar per ton of cane	Sugar per acre: actual	Sugar per acre: Percent of C.P. 52-68	Heavy Soils: Tests	Cane per acre	Sugar per ton of cane	Sugar per acre: actual	Sugar per acre: Percent of C.P. 52-68
	Number	tons	pounds	pounds	percent	Number	tons	pounds	pounds	percent
Commercial varieties										
C.P. 52-68	14	37.58	180.4	6779	100	7	34.70	166.5	5778	100
C.P. 44-101	14	38.64	159.2	6151	91	7	35.24	158.3	5578	97
C.P. 47-193	-	-	-	-	-	7	28.79	183.1	5271	91
C.P. 48-103	14	30.74	207.8	6388	94	-	-	-	-	-
N. Co. 310	14	35.57	171.9	6114	90	7	32.15	166.4	5350	93
C.P. 55-30	14	39.40	172.6	6800	100	7	34.55	191.2	6606	114
Unreleased varieties										
C.P. 57-98	13	30.16	193.7	5842	86	6	31.27	193.8	6060	104
C.P. 58-20	9	36.43	187.4	6827	96	5	33.22	180.2	5986	105
C.P. 58-48	9	35.64	189.8	7334	103	5	34.45	171.2	5898	104
C.P. 59-29	5	35.64	193.3	7577	104	3	29.99	186.5	5593	106
C.P. 59-32	5	35.40	210.8	7462	102	3	29.00	185.2	5371	102
C.P. 59-43	5	45.27	187.6	8493	116	3	44.42	158.7	7049	133
L. 55-6	9	33.31	166.2	5536	85	2	32.08	179.6	5762	92
L. 56-7	6	34.96	147.2	5146	77	4	34.14	147.3	5029	82
L. 56-25	9	26.16	155.7	4073	63	4	29.33	174.5	5118	83
L. 60-1	5	35.91	205.3	7372	101	3	36.96	174.1	6435	122

Table 4. Average yields of 3 crops of 16 varieties of sugarcane grown on light and heavy soils at all locations in the Bayou Teche area, 1963.

Variety	Light soils: Tests (Number)	Cane per acre (tons)	Sugar per ton of cane (pounds)	Sugar per acre: actual (pounds)	Sugar per acre: Percent of C.P. 52-68 (percent)	Heavy soils: Tests (Number)	Cane per acre (tons)	Sugar per ton of cane (pounds)	Sugar per acre: actual (pounds)	Sugar per acre: Percent of C.P. 52-68 (percent)
Commercial varieties										
C.P. 52-68	13	32.39	194.5	6300	100	2	29.42	167.9	4940	100
C.P. 44-101	13	33.47	183.6	6145	98	2	28.44	194.7	5537	112
C.P. 47-193	-	-	-	-	-	2	22.77	210.0	4782	97
C.P. 48-103	10	27.78	227.2	6312	97	-	-	-	-	-
N. Co. 310	12	33.13	195.1	6464	103	2	28.56	214.7	6132	124
C.P. 55-30	13	34.03	194.5	6619	105	2	28.54	214.2	6113	124
Unreleased varieties										
C.P. 57-98	11	28.44	206.5	5873	95	1	19.85	217.6	4319	93
C.P. 58-20	9	31.05	190.6	5918	97	-	-	-	-	-
C.P. 58-48	10	31.58	201.5	6363	102	1	20.86	212.5	4433	96
C.P. 59-29	5	31.21	216.3	6751	112	-	-	-	-	-
C.P. 59-32	5	27.78	224.4	6234	104	-	-	-	-	-
C.P. 59-43	5	35.86	225.2	8076	134	-	-	-	-	-
L. 55-6	6	37.95	191.8	7279	111	1	23.54	211.6	4981	108
L. 56-7	7	31.78	160.6	5104	81	1	27.69	182.0	5040	109
L. 56-25	8	29.87	178.3	5326	83	1	17.47	208.0	3634	79
L. 60-1	5	31.88	203.4	6484	108	-	-	-	-	-

Table 5. Yields of 12 varieties of sugarcane grown on light soils in the Red River area, 1963.

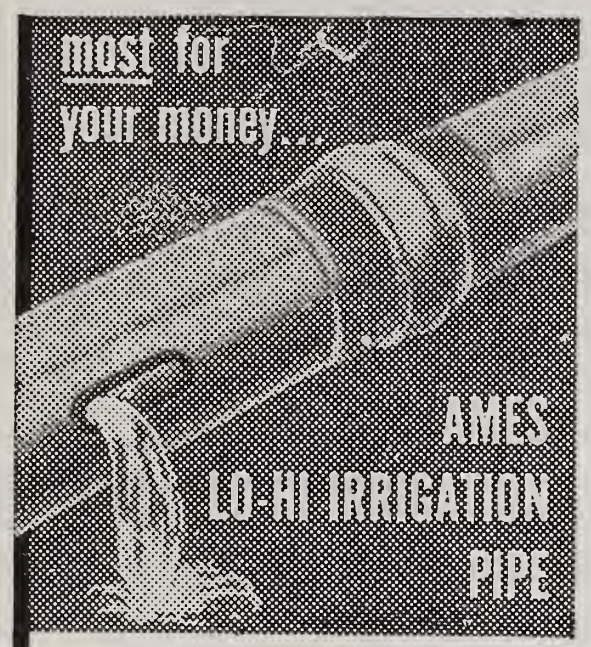
Variety	Tests (Number)	Cane per acre (tons)	Sugar per ton (pounds)	Sugar per acre: actual (pounds)	Sugar per acre: Percent of C.P. 52-68 (percent)
Commercial varieties					
C.P. 52-68	1	36.91	171.5	6330	100
C.P. 44-101	1	37.21	162.9	6062	96
C.P. 48-103	1	33.51	205.3	6880	109
N. Co. 310	1	35.89	172.3	6184	98
C.P. 55-30	1	37.38	180.9	6762	107
Unreleased varieties					
C.P. 57-98	1	37.42	200.6	7506	119
C.P. 58-20	1	33.42	175.4	5862	93
C.P. 58-48	1	41.47	172.5	7154	113
C.P. 59-29	1	35.05	190.2	6667	105
C.P. 59-32	1	36.66	203.7	7468	118
C.P. 59-43	1	45.97	163.2	7502	119
L. 60-1	1	28.97	167.3	4847	77

in plant cane and stubble experiments.

The average yield of sugar per acre from L. 60-1 was approximately equal to that of C.P. 52-68 in plant cane.

Experiments on Heavy Soils (Table 2)

Commercial Varieties—C.P. 55-30 was the only released variety that outyielded C. P. 52-68 in heavy soil experiments during 1963. It exceeded C.P. 52-68 by 13% in production of sugar per acre. These results indicate that C.P. 55-30 may have an important place on clay soils in Louisiana since C.P. 52-68, the standard variety, also produces well on those soils.



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C.P. 44-101 and C.P. 47-193 averaged 95 and 93% of C.P. 52-68, respectively, in yields of sugar per acre. N. Co. 310 averaged 99% of C.P. 52-68 in yields of sugar per acre for all crops, but the second-year stubble crop was relatively weak. It should be pointed out that yields of sugar per acre from N. Co. 310 were 112% of those of C.P. 52-68 in plant cane and 96% in first-year stubble.

Unreleased Varieties — C.P. 58-48 was approximately equal to C.P. 52-68 in yield of sugar per acre in plant cane and first-year stubble. Yields of sugar per acre from C.P. 59-43 and L. 60-1 were 117 and 106% respectively, of those from C.P. 52-68 in plant cane experiments only. Although these 3 varieties are promising, more testing is required to determine definitely their importance.

Test by Areas

Mississippi River and Bayou Lafourche Area (Table 3)—The standard variety, C.P. 52-68, produced more sugar per acre in the Mississippi River and Bayou Lafourche area than in the Bayou Teche and Red River areas in 1963. The only commercial variety to equal C.P. 52-68 in this area on light soil was C.P. 55-30. C.P. 55-30 was superior to C.P. 52-68 on heavy soils; its yields of sugar per acre was 114% of that of C.P. 52-68.

C.P. 44-101 averaged 91% and N. Co. 310 90% of C.P. 52-68 in yield of sugar per acre on light soils. C.P. 47-193, on heavy soil, averaged 91% of C.P. 52-68 in yield of sugar per acre. In light soil experiments, C.P. 48-103 averaged only 94% of C.P. 52-68 in yield of sugar per acre, but it is considered a valuable variety for early harvest.

All of the unreleased varieties in these experiments, except C.P. 58-48, C.P. 59-43, and L. 60-1, have been eliminated from the testing program. These 3 varieties are now at the secondary seedcane increase stations as candidates for release for commercial culture. C.P. 58-48 produced average yields of sugar per acre that were 103% of that of C.P. 52-68 on light soil and 104% on heavy soil. C.P.

59-43 exceeded C.P. 52-68 in yield of sugar per acre by a considerable margin in all experiments in this area while L. 60-1 was approximately equal to it on light soil, but superior on heavy soil.

Bayou Teche Area (Table 4)—C.P. 55-30 averaged slightly better than other commercial varieties on light soils, where yields of sugar per acre were 105% of those of C.P. 52-68. Yields of sugar per acre from N. Co. 310 were 103% of those of C.P. 52-68 in all experiments on light soils. C.P. 52-68 outyielded C.P. 44-101 and C.P. 48-103 by 2 and 3%, respectively, in yield of sugar per acre. On heavy soil, C.P. 55-30 and N. Co. 310 were by far the best varieties, with C.P. 44-101 in third place. These data from only 2 experiments should be considered preliminary.

The yield of sugar per acre from C.P. 58-48 was 2% higher than that from C.P. 52-68 on light soils and 4% lower on heavy soils. C.P. 59-43 and L. 60-1 outyielded C.P. 52-68 in sugar per acre in plant cane on light soils.

Red River Area (Table 5)—Results for this area consist of only one plant cane experiment on light soil. The severe freeze of 1962 caused considerable damage to the crop, and the stubble experiments were destroyed. C.P. 44-101 produced a satisfactory yield of cane per acre, but as in other areas, the yield of sugar per ton of cane was relatively low; the average yield of sugar per acre for C.P. 44-101 was 96% of that of C.P. 52-68. C.P. 48-103 was the best yielding commercial variety in the experiment, it produced 109% of C.P. 52-68 in yield of sugar per acre. C.P. 55-30 outyielded C.P. 52-68 by 7% in sugar per acre.

C. P. 58-48 and C.P. 59-43 produced more tons of cane and sugar per acre than C.P. 52-68. L. 60-1 was apparently damaged by a herbicide, presumably Dalapon.

Summary

C.P. 52-68 continued to yield well in all experiments, and it is now used as the standard variety for yield com-

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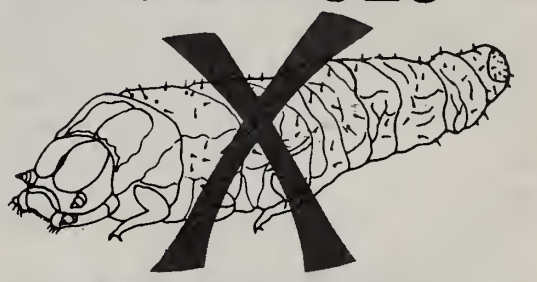

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parisons. The relatively low sugar-per-acre yields of C.P. 44-101 were partly due to low sucrose content, particularly early in the harvesting season in second-year stubble. Although C.P. 48-103 averaged slightly less than C.P. 52-68 in yield of sugar per acre for all areas, it has a distinct advantage for early harvesting because of its high yield of sugar-per-ton of cane. C.P. 48-103 was the highest yielding commercial variety in the Red River Area. Yields of N. Co. 310 continued to drop in second-year stubble crops on light and heavy soils, but plant cane yields were good, and first-year stubble yields were satisfactory in 1963. The newly released variety, C.P. 55-30, outyielded C.P. 52-68 in most experiments, but greatest differences occurred on heavy soils were C.P. 55-30 was far superior.

C.P. 58-48 outyielded C.P. 52-68 but has shown some weakness in stubble experiments. C.P. 59-43 gave excellent yields, and L. 60-1 gave satisfactory yields in plant cane.

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[1] Research Agronomists, Crops Research Division, Agricultural Research Service, United States Department of Agriculture.

[2] Associate Professor of Agronomy, Department of Outfield Sugars, Louisiana Agricultural Experiment Station.

[3] Climatological Data for Louisiana, U. S. Weather Bureau.

[4] Abbott, E. V., Zummo, N., and Tippett, R. L. Report to Contact Committee, American Sugar Cane League, June 25, 1964. Mimeographed.

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DATA ON MILLS AND PRODUCTION OF SUGAR—FLORIDA 1963 CROP

Summary of Final Manufacturing Reports 1/

Crop days, average	121.2
Lost time, % total time	15.76
Tons cane ground	4,631,726
% Total cane ground	100.00
Tons ground per hour	189.03
Extraction, N.J., % cane	75.25
Sucrose extraction, %	90.15
Maceration, % cane	19.79
Fibre, % cane	12.06
Java Ratio	79.23
ANALYSES:	
Crusher juice Brix	16.98
Crusher juice sucrose	14.08
Brix factor	97.23
Sucrose factor	94.89
Normal juice Brix	16.51
Normal juice sucrose	13.36
Normal juice purity	80.96
Factory syrup Brix	57.92
Residual juice Brix	7.44
Residual juice purity	75.19
Bagasse, % sucrose	3.71
Bagasse, % moisture	53.83
Bagasse, % fibre	40.68
Press cake, % sucrose	3.12

Summary of Final Manufacturing Reports 1/

SUCROSE BALANCE:	
B/S Mols. sucrose in % cane	1.064
Press cake, " " " "	.110
Undetermined " " " "	.217
Bagasse " " " "	1.099
Total losses " " " "	2.490
Sugar " " " "	8.665
Cane, total suc. in % cane	11.155
Lbs. 96° Sugar M&E T/Cane	180.51
Gals. B/S Mols. 80° Brix T/Cane	6.35
Boiling House Efficiency	95.11

Production of Sugar & Blackstrap Molasses 2/

Tons of cane	
Gross	4,631,726
Net	4,446,459
Tons of sugar produced	
As produced	408,726
Raw value	424,375
Molasses (Blackstrap)	
Gallons	29,397,324

1/ Gross Cane Weight Basis

2/ Based on partly estimated weights & polarizations as reported on Forms SU-123

SUGAR CANE DELIVERED TO MILL BY APPOINTMENT SYSTEM USED LAST HARVEST SEASON AT MEEKER SUGAR COOPERATIVE

By J. Nelson Fairbanks

Waiting long hours to unload cane trucks is a thing of the past—if you market your cane at the Meeker Sugar Cooperative mill in Rapides parish.

A new system of delivering cane to the mill by appointment was used successfully last harvest season by cane growers in Avoyelles and Rapides parishes. The system was developed by Harvey K. Bubenzer, Sr.,* Vice President of the Meeker Sugar Cooperative and a cane grower for over 60 years.

"Prior to developing the appointment system" Mr. Bubenzer said, "it was not uncommon to see thirty trucks waiting in line to be unloaded." A truck could arrive at the mill at 6 o'clock in the morning and find trucks in line from the previous day. It would then be nine or ten o'clock that morning before the truck was unloaded." With the appointment system, no more than five or six trucks were in line at one time. Waiting time at the mill was reduced by as much as 3 hours.

A survey of growers hauling cane to Meeker indicated that the number of trucks required to haul their 1963-crop cane was reduced by 38 per cent with the use of this system. Some cane growers were able to haul all their cane last season with one truck where it had required two trucks in previous years when the crops were smaller.

How the Appointment System Works

The following factors were used in setting up the appointment system:

1. Each grower's daily quota was converted into truck loads. An estimate of the number of tons of cane to be delivered per truck load was obtained from each grower or trucker.
2. The number of trucks that could be unloaded per hour was determined.
3. Each shipper was assigned certain hours of delivery, based on the number of truck loads required to fill his daily quota.
4. The total number of truck deliveries assigned in any one hour was limited to the number of trucks that could be unloaded in that hour.
5. In arriving at each grower's hours of daily delivery and the time interval between truck arrivals, the hauling distance from farm to mill was given major consideration. (Time intervals between deliveries were particularly important to the smaller shippers and those using only one truck for delivering their cane).
6. Identification cards (names printed on plywood boards) were made for each grower or shipper and used at the mill to indicate the shipper's trucks that were to be unloaded during each hour.
7. The weighman would display the identification cards of shippers 5 to 10 minutes prior to the hour when their trucks were scheduled to be unloaded. As each truck was weighed the identification card was hung on the truck for immediate identification of cane ownership for the trash and laboratory men. Cards were returned to the scales after unloading.

* Harvey K. Bubenzer, Sr., is 84 years of age, a charter member of the American Sugar Cane League and honorary member of the Executive Committee. He and his son, Harvey Bubenzer, Jr., and son-in-law Melford Allums, operate a 1,500 acre, sugar cane, cattle and soybean farm 2 miles north of Bunkie, La.

Table 1. Demonstration of Procedure Used in Developing the Appointment System of Cane Delivery at Meeker Mill.

Producer or Shipper	Daily Quota, Tons of Cane	Daily Quota, Truck Loads	Hours of Truck Arrivals, by Individual Producer, and Number of Truck Arrivals Each Hour											
			Morning						Afternoon					
			6:00	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00
Producer No.														
1	58	2			1			1						
2	150	6	1		1		1		1		1		1	
3	192	7	1		1	1	1		1		1		1	
4	67	3		1			1			1				
5	107	4	1			1			1			1		
6	131	5		1		1		1		1		1		
7	270	10	1	1	1	1	1	1	1	1		1		1
8	86	3		1		1		1						
9	89	5		1		1		1		1		1		
10	85	4	1		1		1			1				
11	31	2		1				1*						
12	81	3		1			1			1				
13	127	5		1		1		1			1			1
14	33	2			1				1*					
15	67	3		1		1		1						
16	202	8	1		1		1	1		1	1		1	1
17	25	1			1									
18	85	4	1			1			1			1		
19	156	6	1		1		1		1		1		1	
20	98	4		1		1			1		1			
Total	2197	87	8	10	9	10	8	9	8	7	6	5	4	3

* Extra load when needed by grower to keep up daily quota.

The identification card system prevented confusion at the mill by allowing each truck driver to see, upon arrival at the mill, the names of the growers scheduled to unload during the hour.

Table 1 shows how the appointment system was set up. The system shown in the table is for 20 shippers and is based on a 2200 ton daily delivery. Delivery schedules based on daily grinding rates of 1600, 1800, 2000 and 2400 tons of cane were also developed for the Meeker mill by Mr. Bubenzer. The schedule which corresponded to the daily grinding rate was the one used.

Note in Table 1 that the largest number of truck deliveries shown per day for an individual grower is 10. Since there are 12 hours per day in which cane is received at the mill, no individual grower was required to deliver more than one truck load per hour. However, as Mr. Bubenzer pointed out, the appointment system of delivery can be adapted to mills regardless of the tons of cane delivered per grower, the number of growers delivering to the mill, or the capacity of the mill.

When it was necessary to increase or decrease the total number of tons received daily at the mill, loads from various growers were either added or deleted. Truck loads were usually added to or deleted from the "afternoon end" of each grower's schedule.

It is necessary to periodically re-evaluate each grower's crop estimate during the harvest season. If the production estimates of some growers change during the harvest season, this will require that their daily quota be adjusted. When this occurs it may be necessary to slightly alter the delivery schedule.

Mr. Bubenzer explained that the mill's fieldman, who usually makes the crop estimate, should coordinate with the weighman at the mill or whoever is in charge of the cane delivery operation. Mr. Bubenzer coordinated the entire delivery system at Meeker during the 1963 crop harvest.

Table 2. Cost Comparisons and Estimated Savings Resulting From Use of Appointment Delivery System, Meeker Mill, 1963-crop Harvest.

Type of Delivery	Number of Trucks Required for all Growers to Haul Their Cane	Initial Investment Cost of Trucks 1/ and semi-trailers	Annual Fixed Cost of Trucks 2/	Direct Cost of Labor, 3/ Truck Drivers
Old System ("First come, First Unloaded")	42	$ 294,000	$ 51,471	$ 37,706
Appointment System	26	182,000	31,863	23,342
Differential	16	$ 112,000	$ 19,608	$ 14,364
Total Annual Cost Saving			$ 33,972 4/	
Cost Saving Per Net Ton of Cane Delivered			$ .26 4/	

1/ Initial Investment Cost of new truck-tractors and semi-trailers is estimated at $7,000 each.

2/ Annual Fixed Cost includes depreciation, insurance, vehicle license, federal use tax, and interest on investment.

3/ Truck drivers labor costs are based on a 75 day grinding season, 9 hours per day and $1.33 per hour (the 1963-crop harvest minimum wage rate, including bonus).

4/ Figures are based on the assumption that the truck-tractors and semi-trailers are used only for cane harvesting.

When asked about how the appointment system was affected by commercial truckers hauling for several small growers, Mr. Bubenzer explained it this way. "I found out whose cane the custom trucker was hauling and, based on the total daily quota of all growers he hauled for, the trucker was given a delivery schedule. It was up to the growers and the truckers to work out the time that each grower's cane would be delivered."

Mr. Bubenzer said that most cane growers at Meeker haul their cane with their own trucks and most all growers are members of the Cooperative. Having a vested interest in the mill made each grower more willing to cooperate in establishing the appointment system. Mr. Bubenzer hastened to add that he felt sure that any mill, whether it is a cooperative or an independent mill, could utilize the appointment delivery system.

Substantial Cost Saving

Table 2 gives an estimate of the cost saving to Meeker growers for the 1963-crop resulting from the use of the appointment delivery system.

The cost saving of $.26 per net ton of cane delivered or a total cost saving of $33,972 shown in Table 2 includes only direct savings resulting from the reduction in the number of trucks required for hauling cane and in reduced labor requirements for truck drivers. There may be some additional indirect cost savings associated with a reduction in labor requirements where perquisites such as housing, insurance, etc., are provided for the workers in addition to their hourly wage. Also there may be some additional savings resulting from more efficient utilization of other harvest labor by having scheduled hours of delivery at the mill.

Skeptical at First

Prior to installing the appointment delivery system most Meeker growers were doubtful that the system would be workable. Some thought it would work for a few days but felt that growers would soon forget their schedule and be right back to the old system of waiting in line. However, on the insistence of Mr. Bubenzer, growers at Meeker consented to give it a try. After a very successful operation last season, some growers remarked that it worked so well and provided such a saving in costs that they wondered why someone hadn't persuaded them to use it sooner. There is almost unanimous agreement among the growers for its continued use in future harvests.

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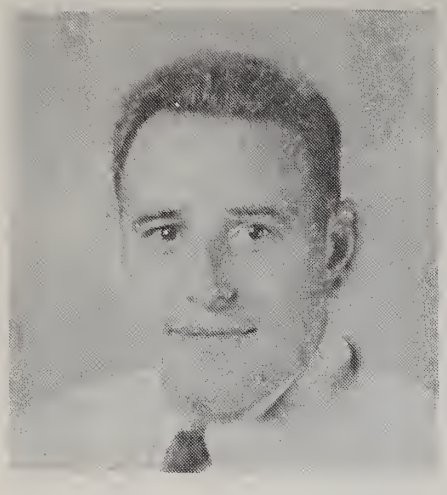

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

More About Planting

According to Mr. Rouby Matherne, Agronomist at the U.S.D.A. Houma Station, the three major varieties C.P. 52-68, C.P. 44-101 and N.Co. 310 all respond well to September planting. Mr. Matherne's work also shows that C. P. 44-101 and N.Co. 310 also responds well to October planting. This work also points out that C.P. 44-101 is not responding as well to August planting as the variety did in the past years.

Growers are reminded that C.P. 52-68, N.Co. 310, and C.P. 55-30 are all susceptible to mosaic disease and if these varieties are planted in August there will be both plenty of growth and time for mosaic to spread in the fall before the cane is killed by freezes. Cane planted in August from perfectly clean seed can become badly infected with mosaic disease before it is killed by a freeze. Growers are also reminded that special seed plots should be given special preference and care. These should be planted later and be bordered by some resistant variety such as C.P. 47-193 or C.P. 36-13. It should also be pointed out that late planting alone will not insure clean cane because the spread of mosaic from diseased to healthy cane can and does take place in the Spring particularly where the surrounding cane is heavily infected with mosaic disease.

Growers should not be in a hurry to plant the crop. There is plenty of time to do the job. With the recent regular, heavy rainfall, fields are not now in shape for planting. Fields have been too wet to plow. There is plenty of grass all over the belt. These fields should be put in goo shape before cane is planted even a the expense of being somewhat lat with the planting. It is easier an cheaper to kill grass before than afte cane is planted.

Besides making a well pulverize seed-bed and opening the plantin furrow to a uniform depth, grower should give extra special attention t the cutting of seed as well as to th dropping of the seed in the plantin furrow. Close supervision at thi stage pays off in profits. These tw operations cannot be supervised fror the seat of a pick-up truck. The grow er or the overseer must walk into th cane field. Pay particular attentio to the topping of seed to be certai that cane and not leaves are bein planted. Check the topping knif when going from variety to variet as well as when transferring fror one field to another. Extra specia care and supervision should be give when cane is being dropped in th furrow to be sure that the canes ar properly lapped and that there ar no gaps planted. Remember a gap i usually a gap for three years. Gap cost money. It is impossible to mak top yields in fields having gapp stands.

Too much soil cover over can hurts stands. Cover seed with nc more than four inches of packed so for September and October plantin In earlier planting cover with abou two inches of soil at the time c planting and pull additional soil ove the row after cane is up to a goo stand. Too much cover over cane responsible for many poor stands pa

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sugar Policy to be Reviewed

The 88th Congress entered in what appears to be its final two weeks of existence with more than the usual hustle, bustle and confusion. With the Democratic National Convention less than two weeks away—August 24—and a red hot political campaign in the offing, House and Senate Leaders are cracking their whips and greasing the legislative wheels for a dash for sine die adjournment not later than Saturday, August 22.

At this late date, August 11, the sugar legislative picture resembles your television screen when a helicopter passes a couple hundred feet overhead.

Government spokesmen reiterate their intention to make no recommendations because of the controversy between Beet and Cane Refiners still raging uncontrolled.

Sugar beet interests are continuing a terrific pressure campaign on members of Congress opposing any legislation which would restrict the 1965 beet acreage.

The United States Cane Refiners say that "sooner or later" they have to fight the beets to a finish in order to survive. They figure that "sooner" would be better than "later". Consequently they refuse to make any concessions on beet acreage or quota demands.

Administration and Congressional leaders some time ago agreed that no controversial legislation would be scheduled during the remainder of this session. They say sugar definitely is in the category "controversial". Unless some Congressional action is taken, the foreign provisions of the Sugar Act will expire December 31, 1964. There is some belief that if the foreign quotas are not extended domestic quotas will have to be suspended. In the event of suspension of all quotas, the question arises as to whether or not the tariff on full duty sugar would revert to 1.1375 or .6875 cents per pound.

All of these questions must be answered, but, regardless of the answers, about the only sugar legislation which can be enacted at this late date is a Joint Resolution to extend the foreign provisions of the Act for one more year. Even that Resolution would have to be noncontroversial. It may be the one and only point on which industry, Government and Congress can agree.

---

icularly on light sandy soils. Watch his operation closely.

Although general drainage work must have already been done before the planting operation is started, it is important to plant cane well above the water furrow so that the seed pieces will not be in a water logged area during the rainy winter season. The opening of drains immediately following the planting operations will insure this job being done and not forgotten. Water over cane does not help. In fact this causes poor stands.

Good drainage is most important to good yields of cane and, in the writer's opinion, better drainage over the past few years is one of the most important factors which have contributed to the above average cane yields during the last several years.

If you have a big weed problem in your cane field, we have

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Dowpon® grass killer controls Johnson and Bermuda grass, cattails and phragmites from tops to roots. And Kuron® herbicide is downright fatal to wild lettuce, chicory, nightshade and other cane field weeds.

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THE SUGAR BULLETIN

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Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

J. Nelson Fairbanks, Economist

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UP FRONT WITH THE LEAGUE

by A. W. Dykers

Acreage Controls

It appears certain that growers will have acreage allotments on the 1965 cane crop, which is now being planted. Announcement of the reduction in acreage Louisiana and Florida growers will have to make has been delayed awaiting action by Congress on sugar legislation but it is a fairly safe bet that the mainland sugar cane acreage will be cut at least 12 percent. Some growers may not have to take that big a cut and others may have to take a bigger one. If Congress does not hurry up and pass the necessary sugar legislation to give Louisiana and Florida the right to sell the surplus, or over-quota sugar, produced from the 1963 and 1964 crops, there is a very real possibility that the acreage cut for all cane farmers in the two states will be much more than 12%.

Officers of the American Sugar Cane League have been working day and night in New Orleans and in Washington on this problem. On Wednesday, August 19th, Congressman Ed. Willis arranged a luncheon conference at the White House with two high ranking officials of the Administration to discuss the sugar situation and we are printing below the memorandum that President of the League Andrew P. Gay, along with Joe Ferris, W. S. Chadwick, Gilbert J. Durbin and Congressman Willis discussed with these officials. On page 321 of this issue we are also printing a copy of the Bill, endorsed by the best people, the League is trying to get through Congress.

Right here we feel that we should state for the record that, as far as we know, the refiners are still insisting that the cane farmers reduce their 1965 acreage 33⅓ percent and the beet farmers their 1965 acreage 20 percent.

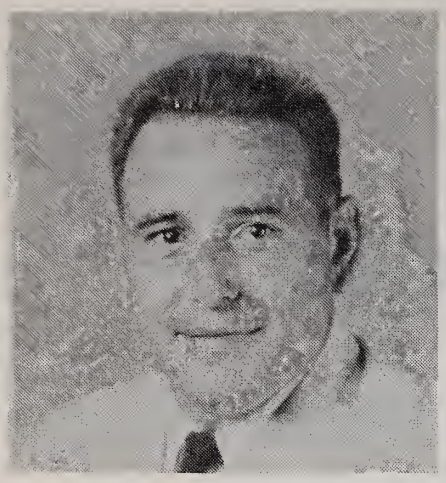
The White House Memorandum

In May, 1963, the U. S. Department of Agriculture removed acreage controls on sugar cane in the mainland cane sugar area (Louisiana and Florida). Several weeks earlier, spokesmen for the mainland cane sugar industry, testifying in a public hearing, strongly opposed such action on the basis that the area's sugar marketing quota under the Sugar Act was not large enough to permit unlimited production.

Since the removal of acreage restrictions, the mainland cane area has increased its cane acreage from 459,000 acres to 574,000 acres and has built three new sugar cane mills. The current estimate of production from the area's 1964 crop is 1,427,000 tons of sugar. Our present marketing quota is 911,410 tons, or 64 percent of estimated production. On December 31 of this year, we will have in storage 500,000 tons of sugar for which marketing quota will not be available. By the end of next year, this carryover of physical sugar will grow to 1,000,000 tons, assuming a continuation of present quota and acreage levels. Obviously, Congressional action is imperative.

In calling for unlimited production of sugar in the mainland cane sugar

(Continued on page 321)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

743,000 Tons Sugar 1964 Cane Crop

Although everyone in the Louisiana sugar cane belt, including the writer, seems to agree that the present crop will be a good one, the writer does not agree with those who, along with the U.S.D.A. Crop Reporting Board, presently predict that this crop will produce as much, or possibly more, net tons of cane per acre as the 1963 cane crop.

The August report of the Crop Reporting Board estimated the 1964 Louisiana cane crop at 29 net tons of cane per acre for the State average. In 1963 the Louisiana cane crop averaged 28.97 net tons of cane per acre. This was approximately three more tons of cane per acre than any other cane crop in the history of the Louisiana cane industry.

Experience has taught many people in the industry, including the writer, that it is almost impossible to predict with any great degree of accuracy in early September the final outcome of any Louisiana cane crop because of the many weather adversities which may occur before the cane is delivered to the mill and processed into sugar. However, in spite of this, the writer will attempt to predict this crop. It is important to point out that the prediction is made more reluctantly than in any year in the past because most growers and many others who see the crop every day will not be in agreement with the prediction.

In other years, the predictions made in this column were in general agreement with most growers in the belt as well as with others who generally saw a good part of those crops.

In the writer's opinion there are some farms on which stands are as good or better than stands were last year, but in general this is not the case. The writer believes there is both some excellent and some poor cane on most farms this year, but that the percentage of poor cane to the total is greater this year than it was for the 1963 crop. There is also more short gappy cane around the belt this year than existed in the 1963 crop.

It is important to again note that there are growers all over the belt who disagree with the writer on the subject of stands of cane. Most growers agree, however, that this crop is generally about 7 to 9 inches shorter than the crop of last year at the same period. There are certainly more grassy fields and the crop is not as uniform in height as was the crop of last year.

For the reasons given above, the writer predicts Louisiana will produce about 743,000 tons of sugar, raw value, and about 26 net tons of cane per acre for the State average. This amount of cane and sugar will be a bumper crop exceeded only by the history making crop of last year when Louisiana produced 760,000 tons of sugar, raw value, and the State averaged almost 29 net tons of cane per acre.

(Continued on page 320)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

Sugar Legislation Still Deadlocked

During the recess of Congress for the National Democratic Convention, Washington was literally a deserted city. Most Congressional offices were closed except for a clerk or two to answer telephones. Even the Capitol Police Force was shorthanded because many of its officers and men were absent because of various duties in Atlantic City.

Congress left the sugar legislative situation still deadlocked. Before the Congressional recess the mainland cane industry and later the domestic beet sugar industry endorsed the "stop-gap" measure which Representative Harold Cooley, House Agriculture Committee Chairman, said he was "considering proposing" but has not yet introduced. In endorsing the marketing and acreage provisions of the "stop-gap" proposal, the domestic beet sugar industry receded from its previously established position which called for unrestricted acreage in 1965. Their endorsement provided for the imposition of acreage restrictions in 1965 on established beet growers of 95 percent of their 1964 planted acreage, or 1,446,000 acres. Mainland cane acreage for 1965 would be approximately 88 percent of the planted acreage as of May 1, 1964, or 503,000 acres. Both the cane and beet areas endorsed the proposal in an effort to keep the sugar program intact until Congress meets next January and revises the Sugar Act.

The "stop-gap" proposal would authorize extra cane and beet marketings in the calendar years 1964 and 1965 of approximately 600,000 tons for mainland cane and approximately 800,000 tons for beets from the 1963 and 1964 crops. The exact amount of excess marketings in 1964 for each area would be within the discretion of the Secretary of Agriculture who would be governed in part by the effect of those marketings on the price. Inasmuch as 500,000 tons of global quota for 1964 have never been authorized for importation, the Secretary could authorize that amount of excess cane and beet production. Likewise, he could withhold importation of 900,000 tons of global quota sugar in 1965 for the same purpose. The mainland cane area's excess sugar would be melted and marketed by U. S. cane refiners which would have the effect of Louisiana and Florida raws replacing an equal amount of foreign raw sugar.

At separate meetings representatives of mainland cane, domestic beet sugar producers and Representative Cooley met with spokesmen for the U. S. Cane Refiners' Association in renewed efforts to bring about the industry wide agreement on legislation. The Refiners said they would consider no legislation which did not restrict mainland cane acreage to 33⅓ percent below 1964 acreage levels and beet acreage to 20 percent below 1964 levels. In addition the Refiners would not permit mainland cane nor the beet area to make any overquota marketings in 1964 and both areas would have to increase

(Continued on page 320)

JUICE CLARIFICATION EXPERIMENTS ON TWO COMMERCIAL FLOCCULANTS--1963 LOUISIANA CROP

By E. E. Coll, W. F. Guilbeau, J. T. Jackson, and S. J. Cangemi, Southern Regional Research Laboratory,[1] New Orleans, Louisiana

Most of the earlier pilot-plant tests with Separan AP-30[2] (1) (2) (3) were based on rates of 2 and 4 p.p.m. on weight of cane processed. Response to the flocculant was very good in general, but varied appreciably with the season, cane variety, soil in juice, and other quality factors of mixed juice. This made it necessary to cover the entire range of 2 to 6 p.p.m. Separan in 1963 to evaluate its effectiveness at the higher rates on juice from hand-harvested cane samples. Also, a new flocculant, Nalco D-1782[2], that gave promising results in preliminary tests, was introduced to the industry last fall, so direct comparisons between Nalco and Separan over the entire range could be of real value to the industry.

The pilot-plant operating procedures were changed at the start of the season to make tests and controls simultaneously rather than to alternate the sequence of the two as in earlier tests. Advantages of simultaneous processing are threefold: (1) a common liming operation eliminates variables between test and control, (2) equalizes holding times of mixed juice before liming, and (3) makes a larger number of tests possible as a result of more efficient use of operating personnel.

Results of the Separan test, Table I, are expressed as percentages of the standard lime clarification controls for clarifier mud weight and processed juice quality factors of clarity and filterability. Similar results from the 1960-62 crops (3) are included in their respective flocculant rate positions in order to summarize all pilot-plant tests to date. The 1963 percentage comparisons were calculated from data tabulated at the top of Table III in this report, and were obtained on hand-harvested cane samples from St. Gabriel Plantation. The table also contains results of three Nalco tests on St. Gabriel cane samples in the 3.5 p.p.m. range. The Nalco tests cannot be compared directly with similar Separan data since all cane samples are not alike, but direct comparisons at the bottom of Table III will be discussed later.

This is the first season that Separan improved processed juice clarity at all addition rates, rather than reducing clarities at the higher rates as reported earlier (3). Average results from all tests indicate that Separan will give 20-25 percent less mud and 10-15 percent better juice filterability without sacrificing clarity, at all flocculant rates from 2 to 6 p.p.m. on hand-harvested cane. Greater improvement can be expected on juices containing large quantities of soil, like the New Hope Plantation samples in Tables II and III. As in Table I, the Nalco results in Table II are not directly comparable with those of Separan. No tests have been made to determine possible shifts in the flocculant requirement as the amount of soil increases.

Juice from New Hope cane contained sixty percent more calcium on the average than juices from handhavested samples. The relationship held for both settled raw and clarified juices which means that the excess calcium in the commercial samples was not removed, and probably not changed chemically, during clarification. No attempt was made at this time to explain the source or reason for the excess calcium, except that the cane samples were very muddy and trashy. The higher calcium

[1] One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

[2] Use of a company name and/or product named by the Department does not imply approval or recommendation of the product to the exclusion of others which may also be suitable.

TABLE I: EFFECT OF FLOCCULANT AT SEVERAL RATES ON MUD WEIGHT AND JUICE QUALITY AS PERCENTAGES OF STANDARD LIME CLARIFICATION CONTROLS

No. of Tests		Flocculant Rate, p.p.m.	Percent of Control		
			Clarifier	Clarified Juice	
1960-62[1]	1963[2]		Mud[3]	Clarity	Filterability
		Separan			
13		2.2	116	100	110
	2	2.3	124	102	138
	2	3.0	112	102	110
6		4.4	122	97	111
	2	4.4	110	102	87
	3	5.1	133	102	129
2		6.0	136	92	108
		Nalco			
	3	3.3	122	100	77

1/ Sequence of tests and controls alternated (4 hrs. each).

2/ Tests and controls run simultaneously from common liming tank; all cane samples hand-harvested, St. Gabriel Plantation.

3/ Inverse percentage ratio.

level may be the result of excess soil, or it may come from the cane and be an added clarification deterrent.

A total of seven pair of simultaneous comparisons on hand-harvested samples between Separan and Nalco flocculants was made over the range of 2 to 6 p.p.m. Results are tabulated at the bottom of Table III in order of increasing flocculant rates. For all practical purposes the results were identical at all rates, based on processed juice clarity and filterability and on clarifier mud weight. The only difference was in the dark mastic appearance of clarifier mud with Nalco at the higher rates, in contrast to the Separan-settled mud that coagulates and separates at similar rates. Nalco-treated mud was easily washed from the empty clarifier, but Separan-treated mud resisted removal.

TABLE II: EFFECT OF FLOCCULANTS ON JUICES CONTAINING LARGE AMOUNTS OF SOIL

	Percent of Control[1]	
	Separan, 4.1 p.p.m.	Nalco, 4.2 p.p.m.
No. of Tests	2	2
Mud Weight[2]	138	164
Clarified juice:		
Clarity	108	108
Filterability	133	125

[1] From commercial cane data in Table III, lines 11-14.
[2] Inverse percentage ratio.

Summary

Two flocculants, Separan AP-30

(Continued on next page)

Table III. VALUE OF POLYELECTROLYTES IN CANE JUICE CLARIFICATION
USDA PILOT-PLANT TESTS, 1963 LOUISIANA CROP

No. of Tests	Treatment	Additive, PPM on Cane	Soil[1] Lbs./T. C.	Clarified Juice			Clarifier Mud, Lbs./T.C.
				Filterability[2]	Clarity[3]	Clar. Eff., %[4]	
2	Separan	2.3	0.9	163	44	96	87
2	Control	--	0.9	118	43	94	108
2	Separan	3.0	1.4	97	44	96	110
2	Control	--	1.4	88	43	94	123
2	Separan	4.4	2.6	138	45	93	92
2	Control	--	2.6	158	44	91	101
3	Separan	5.1	1.8	132	43	99	87
3	Control	--	1.8	102	42	97	116
3	Nalco	3.3	1.7	99	43	94	89
3	Control	--	1.7	128	43	95	109
2[5]	Nalco	4.2	54.5	293	52	100	210
2[5]	Control	--	54.5	234	48	91	344
2[5]	Separan	4.1	52.6	341	51	99	280
2[5]	Control	--	52.6	256	47	91	385
3	Nalco	2.2	2.2	108	45	95	97
3	Separan	2.4	2.2	112	45	96	101
2	Nalco	3.2	2.6	68	42	89	102
2	Separan	3.3	2.6	69	42	90	100
1	Nalco	4.4	2.1	74	37	92	109
1	Separan	4.5	2.1	71	36	90	105
1	Nalco	5.6	0.8	154	52	98	78
1	Separan	6.3	0.8	154	52	98	90

1/ Mineral insolubles in mixed juice.

2/ Millipore membrane method (4).

3/ Luximeter values adj. to 14° Brix.

4/ Clarity percentage ratio: clarified to filtered clarified juice.

5/ Commercial cane from New Hope Plantation.

and Nalco D-1782, were equal in their ability to improve settling of insolubles during juice clarification while processing clean, fresh cane and commercial cane very high in trash and soil. Increasing the flocculant rate from 2 to 6 p.p.m. did not further improve settling on juice from clean cane, but similar tests were not made on trashy and dirty cane to estabilsh the best flocculant addition rate for varying amounts of soil in mixed juice.

Acknowledgments

Continuing support from the following organizations and their personnel was essential to the program: The American Sugarcane League, Audubon Sugar Factory of Louisiana State University, Southdown, Inc.,

VARIATIONS IN PRE-FREEZE JUICE ACIDITY IN SUGARCANE

J. E. Irvine[1]

Introduction

Total acidity of sugarcane juice is used widely as a measure of quality, following a freeze. Fort and Lauritzen(3) suggested that differences in acidity due to varieties or environment might exist before a freeze and errors could be avoided by using only the increase over normal acidity as a quality index following a freeze. Differences in the aconitic acid content of crusher juice from 9 varieties of sugarcane from 6 locations have been reported(1). The production of carbon dioxide by frozen cane may also affect the results of acidity determinations(5). Fort and Lauritzen(4) suggested that whereas rapid increases in acidity occur in frozen cane, the simultaneous increase in gum content is the probable cause of most factory difficulties associated with frozen cane.

During the harvest season of 1963 a study was carried out at Houma, Louisiana, to measure the variation in total acidity prior to freezing, in order to estimate the reliability of total acidity values as they are used in quality determinations of mill cane and in the selection of new varieties.

Materials and Methods

Total acidity values were obtained by titrating fresh crusher juice; they were expressed as the number of milliliters of 0.1N sodium hydroxide required to bring 10 ml of juice to pH 8.4. Except where indicated the cane was hand-cut, hand stripped, and topped in the last hard internode. Data in table 1 were obtained from 20-stalk samples from each of 3 replications of each variety at each harvesting date, and data in table 2 from 20-stalk samples from each of 4 replications of each variety at each location. In comparing acidities at different times after harvest, 15 20-stalk samples were used for each of 13 varieties.

Results

Cane of 21 commercial varieties was sampled on October 10, 1963, to determine the range of total acidity in varieties before freezing. The lowest acidity, 1.76, was from Louisiana Purple, and the highest, 3.93, from C.P. 28-11. Cane of 15 of the 21 varieties had acidity values higher than 2.50, the lowest value for penalization following a freeze.

Data in table 1 show that there was a gradual but definite increase in total acidity between September 25 and December 2. The increase was apparent in all varieties in the test, and it was greatest during October.

Differences in the total acidity of juice of cane from different locations may be seen in table 2. The Greenwood test, the only one on heavy soil, had the highest acidity values. The difference between location extremes was twice that of variety extremes.

A relation between duration of storage after harvest and acidity was found. The average acidity of 13 va-

(Continued on next page)

[1] Plant Physiologist, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture.

St. James Sugar Cooperative, Inc., and St. Gabriel Plantation. Numerous members of the industry are to be commended for extending full cooperation and offering suggestions to improve the value of the cane processing experiments.

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TABLE 1. The effect of maturity on total acidity of juice of 5 varieties of sugarcane. U.S. Sugarcane Field Station, Houma, La. 1963.

Variety	Acidity on sampling dates						
	Sept. 25	Oct. 2	Oct. 15	Nov. 1	Nov. 15	Dec. 2	Average
C.P. 44-101	2.46	2.28	2.69	2.75	2.69	2.89	2.63
C.P. 48-103	2.06	2.02	2.32	2.27	2.28	2.25	2.20
C.P. 55-30	1.96	1.80	1.98	2.14	2.30	2.27	2.08
N.Co. 310	2.04	2.14	2.55	2.50	2.35	2.49	2.35
L. 60-1	2.78	2.76	3.19	3.14	3.32	3.28	3.08
Average 1/	2.26	2.20	2.55	2.56	2.59	2.64	-

1/ An analysis of variance showed a difference due to date of harvest to be significant at the 5 percent level.

TABLE 2. Total acidity of juice of 6 varieties of 2nd stubble sugarcane harvested in the outfield test plots at 5 locations, 1963.

Variety	Location					
	Levert St. John	Bon Secour	Greenwood	Lanaux	Georgia	Average 1/
N.Co. 310	2.12	1.80	2.97	1.92	2.04	2.17
C.P. 36-105	2.05	2.14	3.27	1.98	2.42	2.17
C.P. 44-101	2.26	2.04	3.43	2.13	2.50	2.47
C.P. 48-103	1.91	2.11	-	2.13	2.16	2.07
C.P. 52-68	2.21	1.94	3.33	1.78	2.45	2.34
C.P. 55-30	1.37	1.45	2.74	1.52	2.09	1.83
Average 1/	1.99	1.91	3.15	1.91	2.28	-

1/ An analysis of variance showed difference due to varieties to be significant at the 5 percent level and difference due to location to be significant at the 1 percent level.

TABLE 3. The relation of total acidity and gum content of the juice of cane of 8 varieties of sugarcane 13 days after complete freezing.

Variety	Total acidity	Gum content
		% solids
C.P. 55-30	3.25	0.87
C.P. 60-12	4.05	1.16
CL 41-223	4.66	1.83
N.Co. 310	4.67	1.18
C.P. 44-101	5.70	2.67
C.P. 47-193	7.47	2.70
C.P. 57-98	7.67	4.80
C.P. 58-48	9.34	10.54

rieties of freshly milled cane was 2.69, that of cane milled one week after harvest was 2.90, and that of cane milled 2 weeks after harvest was 2.97. The greatest increase in acidity occurred during the first week after harvest; the greatest moisture loss occurred during this same period.

Davidson(2) reported an inverse correlation between the degree of lodging and sucrose content. In the present experiment the effect of lodging on total acidity was measured on the same samples used by Davidson. Lodging was inversely correlated with total acidity in two varieties. The relation was significant at the 5 percent level in N.Co. 310 and at the 1 percent level in C.P. 48-103.

Preliminary experiments indicate the presence of ratoon stunting disease (RSD) may increase total acidity. The average acidity for 3 varieties from first progeny cane after heat treatment was 3.03, and from RSD-infected cane, it was 3.16.

Average acidity for 5 burned and 5 unburned samples of C.P. 44-101 were 3.12 and 3.39, respectively.

Discussion

The results of this study indicate large variations in the total acidity of the juice of sound sugarcane. Many of the conditions related to increased acidity prior to freezing are also related to moisture stress or moisture content. The observed increases in acidity may be partly a simple concentration effect.

The variability in pre freeze acidity indicates the need for a different method of determining the quality of frozen cane. A simple colorimetric method for the determination of gums in cane juice is being developed(7). Preliminary data in table 3 show a relation between total acidity and gum content of frozen cane. Further testing should show if quality evaluation based on gum determina-

(Continued on next page)

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tion is more realistic than the present method based on acidity.

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—o—

IN WASHINGTON

(Continued from page 313)

their effective inventories as of January 1, 1965, to 67 percent for cane and 90 percent for beets of estimated marketings.

Congress will reconvene on August 31 and will probably remain in session for at least 10 days. The short reprieve for sugar legislation may be helpful because as long as there is life there is hope that remedial action will be taken by Congress before sine die adjournment—with or without industrywide agreement.

—o—

IN THE FIELD

(Continued from page 312)

It is hoped that the grower information used by the Crop Reporting Board is correct and that this crop will produce 29 net tons of cane per acre. With the present price outlook, an above normal crop is needed to allow growers a satisfactory return on their investments. If the Crop Reporting Board is correct, and sugar per net ton of cane is as good as the average for the past several years, Louisiana could conceivably produce 829,000 tons sugar, raw value. This would be good to see.

UP FRONT

(Continued from page 311)

area, due to the world-wide scarcity of sugar at that time, the Secretary of Agriculture did so in the national interest. We responded to the call, therefore the Administration now has an obligation to allow the sugar produced from the 1963 and 1964 crops to be marketed in an orderly manner

A BILL
TO EXTEND AND AMEND PROVISIONS OF THE SUGAR ACT OF 1948, AS AMENDED

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That section 202(c) of the Sugar Act of 1948, as amended (relating to quotas for foreign countries) is amended by striking out "1963 and 1964" in each place it appears therein, and inserting in lieu thereof "1963 through 1965".

SEC. 2 The following new paragraph (3) is added at the end of section 202(a) of such Act.

"(3) Notwithstanding the quotas established for the domestic beet sugar area and the mainland cane sugar area for 1964 and 1965, and notwithstanding any other provision of this Act, each such area may market in 1964 and 1965, as determined by the Secretary, in addition to the quotas established for each area for 1964 and 1965, a quantity of sugar equal to the amount by which the sum of the production of sugar from the 1963 and 1964 crops exceeds the sum of the quotas established for such area for 1963, and 1964, and such additional quantities of sugar so marketed shall be deducted from the quantities of sugar which would otherwise be authorized for purchase and importation in 1964 and 1965 pursuant to section 202(c) (4) (A) of this Act."

SEC. 3. Section 202(c) (4) (A) of such Act (relating to sugar authorized for purchase from foreign countries) is amended by adding the following at the end thereof:

"For the calendar year 1964 the Secretary, in his discretion, need not authorize for purchase and importation hereunder a quantity of sugar not exceeding 500,000 short tons, raw value."

SEC. 4. Section 213(c) of such Act (relating to import fees) is amended as follows: (a) by striking out the language "during the years 1962, 1963, and 1964, which fee in each year shall be respectively 10, 20 and 30 per centum" and inserting in lieu thereof "during the years 1962, 1963, 1964 and 1965, which fee in each year shall be respectively 10, 20, 30 and 40 per centum"; and (b) by striking out the language "during the years 1962, 1963, and 1964 shall be respectively 0.1, 0.2, and 0.3 of one cent per pound" and inserting in lieu thereof "during the years 1962, 1963, 1964 and 1965 shall be respectively 0.1, 0.2, 0.3, and 0.4 of one cent per pound."

in accordance with the price objective of the Sugar Act.

There has also been unrestricted beet sugar production, and this is of concern to the cane sugar refiners. For many months we have tried unsuccessfully to reconcile the differences between the refiners and the beet sugar producers. On July 30 we announced support of a proposal which we considered a fair compro-

(Continued on next page)

arise between the extreme positions of those two groups. On August 13, the beet sugar spokesmen joined us in endorsing that proposal, which is embodied in the attached draft of a resolution. The cane sugar refiners have refused to go along and maintain that the beet growers and cane growers should each reduce their acreage to the level existing prior to the Government's call for expansion in our production and processing facilities. This, of course, is unrealistic.

Enactment of the attached resolution (see page 321) will permit the mainland cane sugar area and the beet sugar area to sell our surplus sugar from the 1963 and 1964 crops. Our 1965-crop acreage of cane will be cut about 12 percent below the 1964-crop acreage. Any larger cut would be an extreme economic hardship. In the beet area, the acreage reduction for all 1964-crop growers in 1965 would amount to about five percent.

We urge the Administration to assume leadership and request Congress to promptly enact this proposed legislation.

Laws Elects

Mr. E. Bershire Terrill, Jr., President of Harry L. Laws & Co., Inc., has announced that the shareholders of this big Louisiana sugar company have elected L. C. Bourgeois, Jr., and John K. Laws to the Board of Directors. Mr. Bourgeois is Vice-President and General Manager of Cinclare. Following the shareholders meeting, the directors elected Paul G. Barron, Jr., Secretary of the corporation.

Appropriations Approved

Word has been received from Senator Allen J. Ellender that the Agricultural Appropriations Bill, which includes $110,000 for sugar cane work and $125,000 for soil and water research work at Baton Rouge, has been passed by both the House and the Senate.

Planting

This is planting time in Louisiana. We are sorry that we cannot encourage you good people to plant all the cane you have the land for. The Executive Committee of the League has asked us to ask you not to overplant. Acreage controls in 1965 are almost a sure bet and over-quota cane isn't worth much in the dollars and cents department.

Nutria Beware

Thanks to the good work of the American Sugar Cane League, it is now lawful for any farmer in the State of Louisiana to kill nutria "as a pest at any time, by any means, and without a license on agricultural lands owned or leased by them, or in waterways and on the banks of waterways adjacent to said agricultural lands, or on any other lands with permission of the owner or lessees of such other lands. Anyone may kill nutria as a pest at any time in residential areas."

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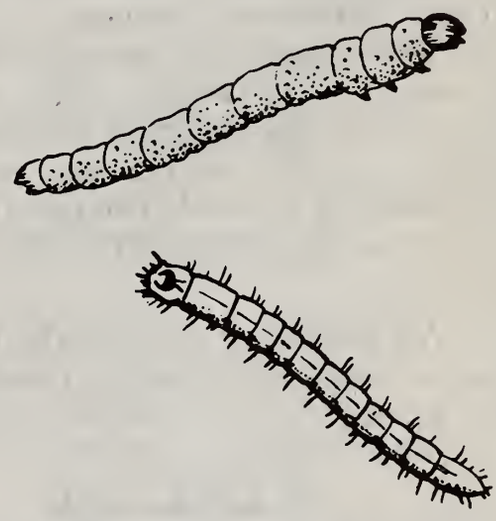

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THE SUGAR BULLETIN

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Announcing The

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of the

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of the

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

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We stand for the encouragement of Home Industries as against Foreign Competition

UP FRONT WITH THE LEAGUE

by A. W. Dykers

King Sucrose XXIII

James P. Cross, business man of New Iberia, La., who is president of the new Cajun Sugar Co-operative, has been selected to reign as King Sucrose XXIII at the 23rd Annual Louisiana Sugar Cane Festival and Fair which begins in New Iberia on Friday, September 25th.

Under the able leadership of its President, Robert J. Miranda, this year's three day celebration will again be a sure-fire success. Plan to be there and take in the show. It starts on Friday and runs through Sunday. The Coronation of Queen Sucrose will take place in the Sugar Cane Festival Building in City Park on Saturday at 8:15 P.M.

The Old Mule

The start of the 1964-65 Louisiana Pricing Period is right around the corner. We regret to report that the Old Mule ain't what he was this time last year. In fact, he is in one gosh-awful mess and, unless somebody comes to his rescue, he bids fair to stay in it.

The price of raws today is 6.15. The price objective under the Sugar Act is 6.63. Where there's life there's hope. The Old Mule is doing some concentrated hoping.

Dr. Abbott Ill

Dr. E. V. Abbott, the Superintendent of the U.S.D.A. Houma Station, is ill. This news distresses us, as we know it will everyone throughout the world who knows this very capable gentleman of science. He suffered heart attacks on September 2nd and 3rd.

LOUISIANA STATE UNIVERSITY LIBRARY

It is good to report that Dr. Abbott is doing all right at this time. The prognostication is that he will be in the hospital in Houma for about a month before going home to further recuperate.

J. & L. Merges

The officials of the J. & L. Engineering Company, Inc., of Jeanerette, La., and the Honolulu Iron Works, of Hawaii, have announced that the two companies have become affiliated under a stock exchange program. The announcement states that the association creates the world's largest firm serving all of the needs of the sugar industry.

Under the merger plan, the continental branch of the business will be in Jeanerette and will retain its identity as J. & L. Engineering Company, Inc. The Jeanerette plant will immediately undergo considerable expansion to provide for the scope of its future operations. All corporation officers, directors and personnel of J. & L. will continue with the company. The officers of J. & L. have been elected to serve on the Board of Directors of the Honolulu Iron Works Company.

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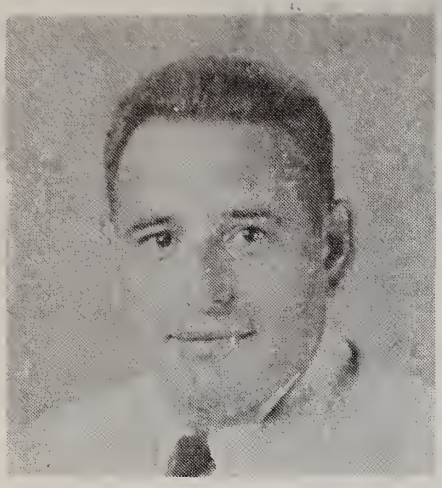

IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

Variety Talk and The Crop

According to Dr. Louis Anzalone, Pathology Department, L.S.U., the future outlook for new and higher producing sugar cane varieties for Louisiana is better now than at any other time in the past. The writer is in thorough agreement with the statement. However, both Dr. Anzalone and the writer as well as all others working in the cane breeding program agree that greater mosaic disease resistance is needed in the breeding program. Unfortunately, many of the most promising looking unreleased varieties have some degree of susceptibility to mosaic disease. This is an unfortunate situation, but the industry will have to live with some mosaic disease for a while, certainly in most present day varieties and maybe in some of the varieties to be released in the future. Fortunately the industry now has several released varieties with mosaic resistance, and there are at least two among the group of unreleased varieties which could be used in the event of a major breakdown of the mosaic susceptible canes. There is no doubt that industry yields would be somewhat reduced from present day yields by a complete transfer to the specialty or secondary varieties such as C.P. 36-13, C.P. 47-193, C.P. 43-47, C.P. 44-155 and C.P. 48-103, but yields from these mosaic resistant varieties may be greater than yields from the present major varieties, if a major mosaic breakdown takes place.

On the subject of varieties, growers will be pleased to learn that the League's Variety Sub-Committee, composed of representatives of L.S.U. the U.S.D.A. and the League, at its September 3, 1964 meeting voted to increase the seed of the mosaic resistant variety, L. 60-1, to the limit of the seed supply at all Secondary Increase Stations. If the yield data of the Testfields show this variety to be promising enough for release, a sufficient amount of seed will be available in 1965 for its release.

Two other outstanding looking unreleased varieties were approved for rapid expansion and transfer to the Secondary Stations. These two varieties are C.P. 60-23 and L. 60-25. Both varieties have shown good agronomic characteristics and sugar per acre has been far in excess of our present varieties.

In addition to Secondary Station transfers, an additional 6 promising looking 1960 year varieties were maintained and increased on the Primary Station and continued in trials on Testfields for possible future transfer to Secondary Stations.

Even more encouraging is the fact that eleven 1961 year varieties were good enough to be kept in the Testfields and increased on Primary Stations. Some of these show excellent promise for the future.

The most encouraging feature in the variety program at this time is the large number of promising looking 1962 varieties available to be transferred from the L.S.U. and U.S.D.A. Stations to the Primary Stations and to the Testfields. Thirty-six promising looking unreleased varieties will be moved from the Experi-

(Continued on page 334)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

No Industry Agreement — No Legislation

Representative Harold Cooley, Chairman of the House Agriculture Committee, in a press release September 8, sounded what may be the death knell of sugar legislation for this year. Mr. Cooley said he had been informed by both beet sugar and cane refiner groups that they had failed to reach an agreement on a one-year extension of the Sugar Act and there is no possibility of enacting a sugar bill which is opposed by either one of these influential groups.

The major difference between the cane sugar refiners and the domestic beet sugar industry, Mr. Cooley said, is over the amount of sugar which beet and cane areas would be permitted to market in excess of their quota in 1965 and the extent of the acreage reduction which would be required of domestic producers to bring them back within their statutory quotas. Mr. Cooley urged the beet growers and the refiners to continue their efforts to agree on some wind of a compromise which would provide the basis for a temporary extension of the Sugar Act.

"But as far as I am concerned," he said, "this is the end of my efforts to work out a compromise. For nine months I have met with every group that wanted to talk about sugar. I have urged the various segments of the sugar industry to compose their differences and agree on an extension which will preserve the principles of the Sugar Act.

"I have been urged to sponsor a bill which will extend the foreign quotas (which expire on December 31st), but I have no intention of introducing legislation to extend the foreign quotas if we cannot, at the same time, solve some of the problems which are besetting the domestic sugar industry.

"The problms of sugar are far broader than those represented by farmers growing sugarbeets or sugarcane or refiners processing imported raw sugars. They involve port and dock workers, and shipping companies, who handle millions of tons of sugar a year. They involve the consumers of the nation—the housewife and the industrial users such as bakers, food processors, soft drink bottlers, and others.

"They involve the producers of all agricultural products, who export to sugar-supplying countries about three times as much as we buy from those countries.

"It involves the foreign relations of the United States and the success or failure of our Alliance for Progress.

"I am not closing the door on an agreement within the sugar industry on the extension of this important law. If such an agreement is reached, I will be glad to learn about it and to sponsor implementing legislation.

"But I believe that the Committee on Agriculture has done all that it can to encourage and bring about an agreement, that without it legislation is not possible, and that any further move in this direction must come from the industry itself.

"This is a most serious subject for the whole economy of the United States and I plan to discuss it at some length with the House next week.

(Continued on page 339)

SUGARCANE FERTILIZER EXPERIMENTS IN LOUISIANA IN 1963

By L. G. Davidson, Research Agronomist, Crop Research Division, Agricultural Research Service, United States Department of Agriculture

(Report to the Contact Committee of the American Sugar Cane League, June 25, 1964)

Eight fertilizer experiments were conducted by the Houma Station in the sugarcane-producing area of Louisiana in 1963. Five of these were rate-of-nitrogen and nitrogen X variety interaction studies superimposed on the outfield variety tests in cooperation with agronomists at the U. S. Sugarcane Field Station, Houma, La. (table 1). Cane in the small-plot tests was cut by hand and weighed on the Station cane-weighing machine. Field samples of 15 stalks selected at random from each plot of these tests were milled and analyzed at the Houma Station. In the large-plot experiment at Oaklawn Plantation (table 3), the cane was machine-cut, weighed on the factory scale, and the cane samples were milled and analyzed at the Oaklawn factory laboratory. Indicated yields of sugar per ton of cane, based on the crusher-juice analyses shown in the tables, were calculated by the Winter-Carp-Geerligs formula. Calculated recoveries, based on fresh cane, may be somewhat higher than would be obtained by the average factory.

Rate-of-Nitrogen Experiments

The effects of various rates of nitrogen on yields of cane and sugar per acre and on juice quality were studied in two experiments with plant cane, four with first-stubble, and two with second-stubble.

Plant cane in the outfield agronomy variety test on light soil on Georgia Plantation was fertilized with 40 and 80 pounds of nitrogen per acre, using 24 replications (table 1). The yields of cane and sugar per acre and juice quality were not significantly affected by the higher nitrogen rate.

In the plant cane experiment on mixed soil at the Houma Station (table 2), yields of cane and sugar per acre were not significantly increased by 80 pounds of nitrogen per acre as compared with the unfertilized controls.

Results during the past 8 years from 19 experiments show that significant increases in yields of cane and sugar per acre were obtained from 80 pounds of nitrogen per acre as compared with 40 pounds in about half of the experiments in which these 2 rates were used. Juice quality was not significantly affected by the higher nitrogen treatment. Lack of response to the higher rate of nitrogen at Georgia Plantation in 1963 was probably due to the excellent growing conditions which resulted in very high yields of cane and sugar per acre obtained by the use of 40 pounds of nitrogen per acre; it is very difficult to raise yields above this level. These average results from 40-level. These average results from 40 and 80 pounds of nitrogen are in good agreement with the joint fertilizer recommendations of the U. S. Department of Agriculture and the Louisiana Agricultural Experiment Station which advise the use of 80 pounds of nitrogen per acre on plant cane.

Data for rate-of-nitrogen experiments on first-stubble cane are shown in tables 1, 3, and 4 and for second-stubble cane in table 1.

First- and second-stubble tests on light soil on Georgia Plantation, Mathews, La., and on Oaklawn Plantation, Franklin, La., (table 1) showed no significant yield increases from 120 as compared with 80 pounds of nitrogen per care. The yield of sugar per acre in the Georgia experiment was significantly reduced by the higher rate of nitrogen. This was due partly to the slightly lower cane yield but mainly to the lower juice quality associated with the high-

Table 1. Effects of nitrogen on yields and quality of plant, first-, and second-stubble cane on light soil at Georgia and Oaklawn plantations, 1963 1/

Crop and Plantation	Nitrogen per acre	Crusher-juice analysis			Cane per acre	Sugar per acre
		Brix	Sucrose	Purity		
	pounds	degrees	percent	percent	tons	pounds
Plant cane:						
Georgia	40	17.11	14.41	84.22	41.82	8,226
	80	17.02	14.26	83.78	42.74	8,306
First stubble:						
Georgia	80	16.30	13.06	80.12	39.55	6,871
	120	16.22	12.89	79.47	40.14	6,867
Oaklawn	80	17.97	14.60	81.25	35.82	7,054
	120	17.91	14.48	80.85	37.33	7,247
Second stubble:						
Georgia	80	14.91	10.69	71.70	33.02	4,395
	120	14.68	10.19	69.41	32.50	4,004 **
Oaklawn	80	18.64	15.50	83.15	30.33	6,444
	120	18.73	15.45	82.49	30.40	6,389

1/ Average data from 12 to 16 varieties in agronomy variety test fields.

Differences between the two treatments significant at the 1% level (**).

er rate of nitrogen. From 28 to 32 replications were used in these experiments.

In the first-stubble experiment on Iberia clay on Oaklawn Plantation (table 3), 170 pounds of nitrogen per acre significantly increased yields of cane and sugar per acre as compared with the 85-pound-nitrogen rate, but did not appreciably affect juice quality.

Data from the first-stubble experiment on light soil on Ashland Plantation, Houma, La., (table 4) show that 160 pounds of nitrogen per acre significantly increased the yield of cane per acre as compared with the 80-pound nitrogen rate, but did not significantly affect yield of sugar per acre or juice quality.

Results during the past 8 years from 22 experiments show that significant increases in yields of cane and sugar per acre were obtained from 120 pounds of nitrogen per acre

(Continued on next page)

Table 2. Effect of fertilizer, calcium peroxide, and sodium silicate on yield and quality of C.P. 44-101 plant cane on Mhoon silty clay loam on the Houma station, 1963.

Treatment per acre N-P_2O_5-K_2O-CaO-CaO_2-sodium silicate	Crusher-juice analysis			Cane per acre	Indicated available 96° sugar	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	degrees	percent	percent	tons	pounds	pounds
0-0-0-0-0-0	15.74	12.36	78.53	33.48	163.4	5,471
80-0-0-0-0-0	16.32	13.15	80.58	32.89	176.4	5,802
80-40-0-0-0-0	15.67	12.37	78.94	37.60	164.0	6,166
80-0-60-0-0-0	16.14	13.15	81.47	38.50	177.5	6,834
80-40-60-0-0-0	15.67	12.48	79.64	33.07	166.3	5,500
80-0-0-200-0-0	16.37	13.27	81.06	34.23	178.6	6,113
80-0-0-0-40-0	16.02	12.90	80.52	33.24	173.0	5,751
80-0-0-0-100-0	15.44	11.95	77.40	34.56	156.6	5,412
80-0-0-0-250-0	15.92	12.67	79.59	36.57	168.8	6,173
80-0-0-0-0-125	16.77	13.83	82.47	37.27	187.9	7,003
80-0-0-0-0-250	16.25	13.23	81.42	33.37	178.5	5,957
80-0-0-0-0-500	15.70	12.59	80.19	32.36	168.4	5,449

There were no significant differences in yields of cane or sugar per acre. Data are means of 3 plots, each 3 rows wide x 20 feet long. Fertilized April 10, 1963; cane harvested November 22, 1963.

as compared with 80 pounds in about one-fourth of the first-stubble tests in which these 2 rates were compared. The average sucrose percentage for all tests were reduced by .15, a highly significant reduction. Large variations in response to nitrogen are recognized in the joint fertilizer recommendations for nitrogen which advise the use of 80 to 160 pounds of nitrogen per acre on stubble cane.

N-P_2O_5-K_2O Experiments

The effects of fertilizer mixtures as compared with nitrogen alone were studied in three experiments (tables 2-4).

Yields were not significantly affected by mixtures as compared with nitrogen alone in the plant cane experiment on mixed soil at the Houma Station (table 2). Nitrogen plus 40 to 250 pounds of calcium peroxide per acre, and nitrogen plus 125 to 500 pounds of sodium silicate per acre had no significant effect on yield of cane or sugar per acre.

In an experiment with first-stubble cane on Iberia clay on Oaklawn Plan-

Table 3. Effect of fertilizer on yields and quality of C.P. 52-68 first-stubble cane on Iberia clay, Oaklawn Plantation, Franklin, La., 1963.

Fertilizer $N-P_2O_5-K_2O$ per acre	Crusher-juice analysis			Cane per acre	Indicated available 96° sugar	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	degrees	percent	percent	tons	pounds	pounds
85-0-0	17.02	13.95	81.96	25.20	185.2	4,667
85-60-60	16.94	13.77	81.29	27.07	182.0	4,927
85-120-120	16.97	13.84	81.56	27.36	183.2	5,012
170-0-0	16.78	13.49	80.39	28.64	177.2	5,075
170-60-60	17.09	13.86	81.10	29.96	182.9	5,480
170-120-120	16.86	13.46	79.83	30.66	176.1	5,399
L.S.D. .05				1.59		367
.01				2.15		496

Data are averages of 6 plots, each 3 rows wide by the full length of the cut, having an average area of 0.3 acre. Fertilized April 3, 1963; harvested October 22, 1963.

tation (table 3), yields of cane per acre were significantly increased by mixtures as compared with nitrogen alone. The yield of sugar per acre was significantly increased by the 170-60-60 treatment as compared with 170 pounds of nitrogen alone, or any of the treatments supplying 85 pounds of nitrogen either alone or in complete mixtures. Factorial analysis (date not shown) shows increases amounting to 1.59 tons of cane and 342 pounds of sugar per acre, both significant, resulting from the use of 60 pounds each of phosphate and potash, as compared with no phosphate and potash. Use of the higher rate of phosphate and potash resulted in no additional increase in yield of sugar per acre.

The application of 40 pounds of phosphate per acre, 60 pounds of potash, or both, in complete mixtures on first stubble cane on Ashland Plantation (table 4) did not significantly affect yields of cane or sugar per acre as compared with nitrogen alone.

Variety X Nitrogen Interaction Experiments

Data showing the relative response to nitrogen of important commercial and promising unreleased varieties were obtained in 5 experiments. Plant cane data for the past 5 years and stubble cane data for the past 4 years, comprising a total of 18 experiments, show no significant variety x nitrogen interaction for the new variety. C.P. 55-30 as compared with C.P. 44-101, C.P. 48-103, or N. Co. 310. No consistent significant variety x nitrogen interactions have

(Continued on next page)

Table 4. Effect of fertilizer on yields and quality of C.P. 52-68 first-stubble cane on Mhoon silt loam, Ashland Plantation, Houma, La., 1963.

Fertilizer $N-P_2O_5-K_2O$ per acre	Crusher-juice analysis			Cane per acre	Indicated available 96° sugar	
	Brix	Sucrose	Purity		Per ton of cane	Per acre
pounds	degrees	percent	percent	tons	pounds	pounds
80-0-0	18.04	15.59	86.42	24.32	212.8	5,175
80-40-0	18.43	16.09	87.30	25.99	220.8	5,739
80-0-60	18.16	15.74	86.67	26.04	215.2	5,604
80-40-60	17.95	15.46	86.13	27.69	210.7	5,834
120-0-0	17.99	15.63	86.88	29.14	213.9	6,233
120-40-0	18.44	16.02	86.88	29.46	219.3	6,461
120-0-60	18.05	15.65	86.70	26.28	214.0	5,624
120-40-60	18.16	15.77	86.84	26.28	215.8	5,671
160-0-0	17.89	15.52	86.75	27.84	212.3	5,910
160-40-0	18.10	15.68	86.63	28.99	214.3	6,213
160-0-60	18.05	15.69	86.93	30.11	214.8	6,468
160-40-60	17.63	15.14	85.88	28.47	206.0	5,865

There were no significant differences in yields of cane or sugar per acre on an individual treatment basis. On a factorial basis, yields of cane were significantly increased by 160 as compared to 80 pounds of N per acre.

Data are averages of 4 plots, each 3 rows wide by 50 feet long. Fertilized April 11, 1963; harvested Nov. 20, 1963.

been found with any promising unreleased varieties in tests conducted during the past 8 years.

FOR SALE

One battery of 8 Western States belt driven centrifugal, 1200 RPM, 40″ x 25″ steel baskets, 48″ x 36″ steel curb, overhead belt drive, 48″ x 7″ clutch pulley, handwheel operated, loading gate and manually operated plough.

GODCHAUX SUGAR REFINING CO.

P. O. Box 308 Reserve, La.

UP FRONT

(Continued from page 327)

The Annual Meeting

We realize, of course, that the readers of this issue of The Sugar Bulletin have already seen the notice of the Annual Meeting of the League on the front cover but, just for the record, we repeat that it will be held in the Blue Room of the Roosevelt Hotel in New Orleans on Thursday, September 24th, starting at 2 P.M.

—o—

IN THE FIELD

(Continued from page 328)

ment Stations this year. This is the largest number ever to be transferred

(Continued on page 339)

2.8 Tons more cane, 463 pounds more sugar per acre

In 25 experiment station tests, soil insect control with Chlordane showed an increase of 2.8 tons of cane per acre over untreated plots. In terms of sugar, this is equivalent to 463 pounds more sugar per acre. For a more profitable crop, protect your cane from soil insects with economical, easy-to-apply Chlordane.

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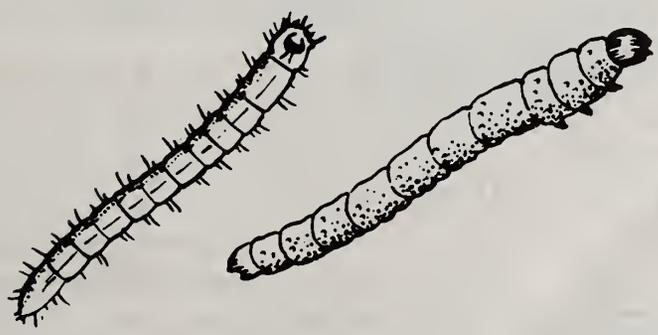

Control soil insects with Chlordane

RULES GOVERNING RAW SUGAR QUOTATIONS

(1964-65 Louisiana Pricing Period)

Refiners—American, Colonial, Godchaux, Henderson, Imperial, South Coast, Southdown and Supreme for both domestic and offshore raws.

Terms—Raw sugar (96 test) in bulk delivered New Orleans for offshore raws and in bulk delivered refinery for Louisiana raws.

Quantity—Not less than 300 short tons of domestic raw sugar or less than 2,000 long tons of offshore raws.

Spot Sales—Sales to the refiners listed above of either Louisiana raws or offshore raws for delivery within 45 days at a stipulated price.

Time Limit—Sales to the refiners listed above, completed before the close of the market, shall be used in arriving at a price for the day. Sales completed after the close of the market may be carried over to the following day and included in the sales of that day. However, if a majority of the Committee feel that the sales carried over do not reflect the value of raw sugar on the day in question, it is not mandatory that they be used. Trading hours shall correspond with those of the New York Coffee & Sugar Exchange. The Exchange week shall be Friday through Thursday.

Holidays—The Louisiana Sugar Exchange, Inc., shall be closed when the New York market is closed.

Daily Average Prices—All daily average prices shall be the simple average of the spot sales of domestic raws or offshore raws to the refiners listed above on any given day. When no spot sales of domestic raws or offshore raws to the refiners listed above are recorded on any given day the quotations for that day shall be determined by a majority vote of the Raw Sugar Quotation Committee subject to rules approved by the board of Directors of the Louisiana Sugar Exchange, Inc.

Weekly Average Price—Weekly average prices shall be established by taking the simple average of the daily quotations of this Exchange.

Average Price For The Season—The Season's average price shall be established by taking the simple average of the weekly average prices issued by this Exchange applicable to the Cane Purchase Contract Period.

Correction of Quotations—The Exchange reserves the right to adjust any erroneous quotations. An appeal may be taken on any daily quotation by a member of the Exchange to the Board of Directors. Such appeal must be taken within 24 hours of the time the quotation was made and an appeal fee of $25.00 shall be assessed by the Exchange for each appeal.

Rules Governing The Raw Sugar Quotation Committee

It is the intent of the Raw Sugar Quotation Committee to name a price for raw sugar which, in the majority opinion of the Committee, represents the value of raw sugar delivered the refinery on the day for which the quotation is determined.

The basis on which a daily spot quotation is to be determined is as follows:

Actual bona fide sales made to the refiners listed for arrival within 45 days shall be used.

In the absence of spot sales as above the Committee may use current bids and offers of domestic or offshore raws, and/or

The New York Coffee & Sugar Exchange daily spot quotation, adjusted to a duty paid delivered New Orleans basis in a manner determined by the Committe, and/or

Last spot sale to the listed refiners.

Specific Rules

1. In the absence of spot sales, in no event shall a price be made at less than a bid price or more than an offered price when such

(Continued on page 338)

If you have a big weed problem in your cane field, we have

four different answers.

Dowpon® grass killer controls Johnson and Bermuda grass, cattails and phragmites from tops to roots. And Kuron® herbicide is downright fatal to wild lettuce, chicory, nightshade and other cane field weeds.

Then, if there's anything left but cane, set the rest of the gang to work on it—Dow Sodium TCA 95% grass killer and Formula 40® weed killer. See your Dow farm chemicals supplier and start spraying away cane field weeds and grasses with the *complete* Dow herbicide team. The Dow Chemical Company, Agricultural & Industrial Bioproducts Sales, Midland, Michigan.

DOW

RULES GOVERNING BLACKSTRAP MOLASSES QUOTATIONS

(1964-65 Louisiana Pricing Period)

It is the intent of the Blackstrap Molasses Quotation Committee to name a price for Louisiana blackstrap molasses which, in the majority opinion of the Committee, represents the value of blackstrap molasses, f.o.b. the mills, on the day under consideration.

The prime consideration of the committee shall be spot sales. The definition of a spot sale is a follows:

Standard Louisiana Blackstrap—Molasses that is sound, unfermented and testing not less than 79.5 brix at 20 degrees centergrade.

Terms—Bulk f.o.b. plantation in railroad tank cars or barges to dealers recognized by the Exchange.

Unit Of Measurement—8,000 gallons or one railroad tank car estimated to hold approximately 8,000 gallons.

Quantity Constituting a Spot Sale—Not less than 5 units (approximately 40,000 gallons).

Spot Sales—First hand sales made by a Louisiana processor to a dealer recognized by the Exchange at a stipulated price the first 5 units (approximately 40,000 gallons) of which are for shipment to be completed within 30 days.

Reporting Spot Sales—All spot transactions must be reported to the Exchange by telephone or otherwise by either the seller or the buyer, or their agent, before the close of the market on the day on which they are made and these must be confirmed by either the buyer or the seller or their agent on the forms furnished by the Exchange, which forms must be mailed to the Exchange promptly. Approved sales for the current market day must be used in arriving at a price for the day. Approved sales completed after the close of the market may be carried over to the following day and included in the sales for that day. However, if a majority of the Committee feel that the carried over sales (or sale) do not reflect the value of molasses on the day in question it is not mandatory that the sales be used.

Daily Quotations—In no case shall a spot sale be used for quotation purposes on days when there is a higher bid to buy or a lower offer to sell when such bids or offers are considered to be legitimate by a majority of the Committee. When spot sales are approved by the Committee, the daily quotation shall be the weighted average of the number of units of blackstrap sold.

In The Absence Of Spot Sales, the daily quotation shall be determined by the Committee by taking all market developments, including all types of sales, into consideration that reflect the value of blackstrap molasses f.o.b. the mills on the day in question.

Weekly Average Quotations—Weekly average quotations shall be established by taking the simple average of the daily quotations of this Exhange.

Average Price For The Season—The Season's Average Price shall be established by taking the simple average of the weekly average quotations issued by this Exchange applicable to the Cane Purchase Contract Period.

SUGAR QUOTATIONS

(Continued on page 339)

bids or offers are deemed legitimate in the opinion of the Committee.

2. The Committee may disregard a bid or offer where such bid or offer is not freely available to all bona fide refiners.

3. The Committee shall disregard bids or offers as well as sales between refiners.

IN THE FIELD

(Continued from page 334)

in one year to Testfields and Primary Stations. It appears that the expanded cane vreeding program is finally paying off in more and better quality canes.

About the Crop

There is a considerable amount of cane down in many parts of the belt from small windstorms. More cane appears to be down in the West Baton Rouge area than elsewhere. There is also a considerable amount of cane down on the Lower Lafourche.

The cool night temperatures already experienced, should hasten maturity. This condition will also reduce growth rates. The crop still looks good in all areas of the belt and there is no doubt that this will be another bumper crop.

Planting operations are slow and behind in time in all areas. Planting rates from one acre of seed are good generally over the belt.

—o—

IN WASHINGTON

(Continued from page 329)

I will welcome at that time any constructive suggestions which any member of the House can make."

Several Representatives from sugar producing areas have said they plan to take advantage of Mr. Cooley's invitation for "constructive suggestions". They deeply appreciate Chairman Cooley's efforts on many occasions in behalf of the sugar program, they say, and in addition to expressing their gratitude for those past actions they will earnestly urge him to introduce and press for quick passage such sugar legislation as he and his Committee members deem to be in the National interest. Also, they say they will make urgent appeals to the Administration to clear the way for prompt legislative action on sugar.

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ALLIS-CHALMERS Model 45 Motor Grader, 127 HP, cab, power steering, scarifier, 12' hydraulic shiftable moldboard, 14:00 x 24 tires all around. Very good condition (located New Orleans yard)

ALLIS-CHALMERS Model AD-4 Motor Grader, 100 HP, power steering, 12' moldboard, 13:00 x 24 tires all around. Good condition (located B. R. yard)

ALLIS-CHALMERS Model AD-4 Motor Grader, 100 HP, 12' moldboard, 13:00 x 24 rear tires, 9:00 x 24 front tires. Good condition (located N. O. yard)

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